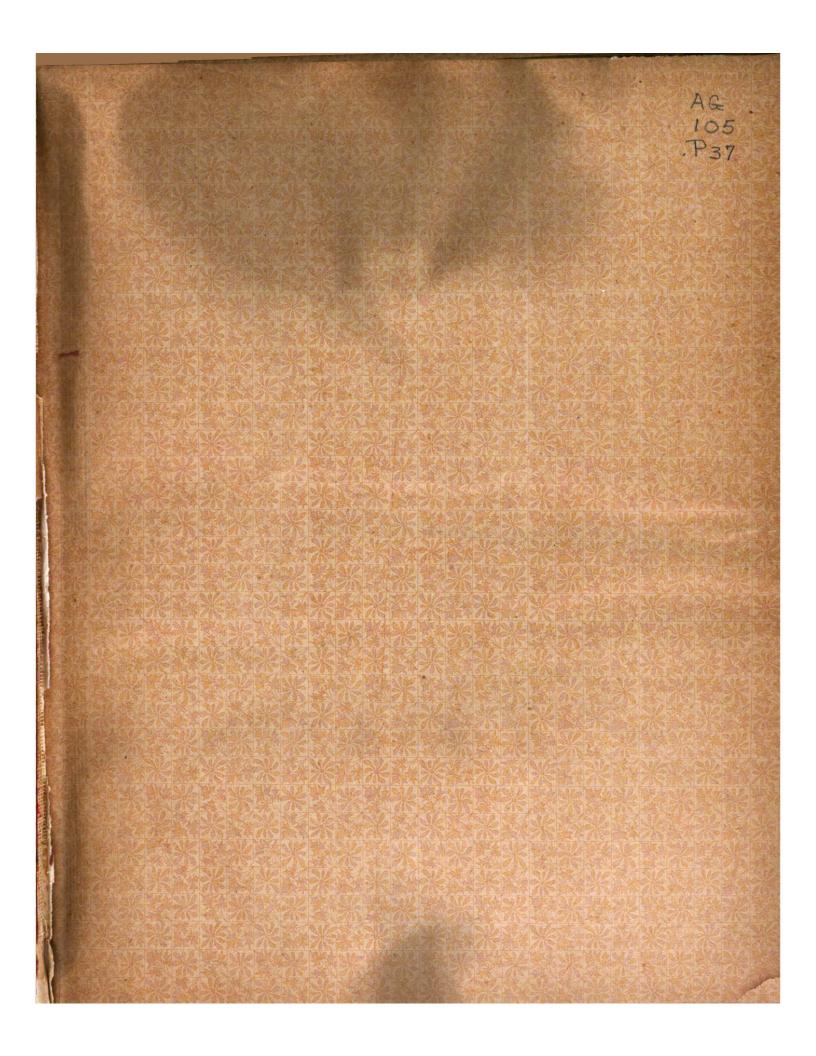
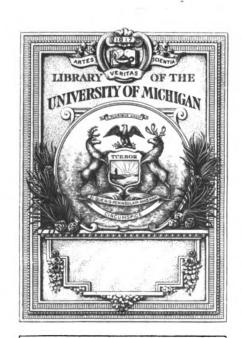


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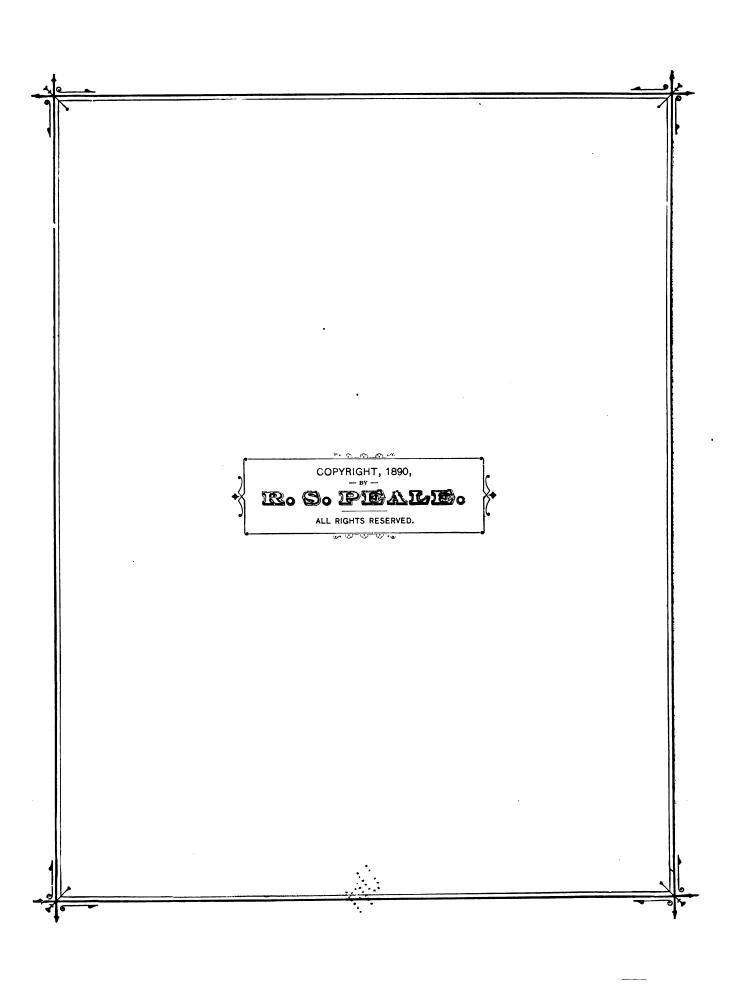
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E are all children of one Father, and His works it should be our delight to study. As the child, standing by its parent's knee, asks explanations alike of the simplest phenomena and of the most profound problems, so should man, turning to Nature, the living, visible oracle of his Creator, continually ask for knowledge.

In scientific language, Nature is defined as "the united totality of all that the senses can perceive;" in the language of theology, it "embraces everything that cannot be made by man," hence is synonymous with "God's creation."

In Nature there is no such thing as chance. Every effect has its cause, as Nature herself is but a name for an effect whose cause is God. When Newton observed an apple fall to the ground he asked the cause, and in answer to his inquiry came one of the grandest discoveries of science—a discovery which let in a flood of light upon the human mind, and led the way to the true knowledge of many things theretofore shrouded in error or mystery. Montgolfier first conceived the idea of air-balloons while watching fogs floating in the atmosphere, and all the

wonderful discoveries of science may thus be traced to simple phenomena, carefully pondered and diligently studied in all their bearings as to cause and effect.

"Nature," says Whipple, "does not capriciously scatter her secrets as golden gifts to lazy pets and luxurious darlings, but imposes tasks when she presents opportunities, and uplifts him whom she would inform. The apple that she drops at the feet of Newton is but a coy invitation to follow her to the stars." The greatest philosophers have been those who have clung to the demonstrative sciences, and have held that a simple truth, well ascertained, is greater than the most ingenious theory founded upon questionable premises. The discoveries of Newton have borne the searching test of time because he snatched at nothing, leaped over no chasm to establish a favorite dogma, but learned to read Nature correctly by regarding the merest trifles as well as the highest phenomena. Thus he discovered a letter in each atom, a word in each blade of grass, a sentence in each phenomenon, and in the volume thus composed he read the wisdom and the power of the Almighty. Every flower, every ray of light, every drop of dew, each flake of snow, the lowering cloud, the bright sun, the pale moon, the azure of the heavens by day and the twinkling stars of night, all are eloquent of the great Hand that made them.

From the earliest ages man has sought to read the open leaves of the book of Nature, but even now, after centuries of research and discovery, he does not grasp it all, cause and effect being followed up step by step until the mind is lost in the search. One discovery only leads to another, and the scientist of twenty centuries hence will be compelled to acknowledge that one-half of the wonderful book is still a mystery. However, all may peruse its pages, and all will find pleasure and profit in observing what is daily going on around them in earth, sea and sky. It is, indeed, only by a study of the material world that discoveries are accomplished. Let an attentive observer watch a ray of light passing from the air into the water, and he will see it deviate from the straight line by refraction. Let him seek the origin of a sound, and he will discover that it results from a shock or a vibration. This is physical science in its infancy.

In the pages following it is purposed to present in brief and entertaining form much useful as well as practical scientific knowledge. It has been sought to convey to the mind of the uninitiated, in as simple and practical a way as possible, a general idea of the various branches of science, as well as to state scientific facts briefly and in proper consecutive order, in such a manner that the advanced student may freshen his memory and revive his interest. Technical terms have been avoided as much as possible, and where they are used of necessity the context will furnish ample explanation.

When a person who is a stranger seeks to be

directed to some point in a large and poorly laid-out city, whose streets, courts and places start from everywhere and end nowhere, crossing each other in a perverse and confusing manner, it were worse than useless to attempt to give him all the directions at once. The better way would be to point out to him the general direction, and then let him inquire as he progresses on the journey. In this connection it may be said that there is nothing so conducive to loss of time as short cuts to those who are not familiar with them. They generally verify the axiom that "Haste makes waste." these introductory remarks we will take the reader to the broad fields of Science, and point out to him the general direction of the respective paths, noting in our way the most prominent turns, and if our readers desire more specific information we will refer them to the writings of those great men who have devoted their lives to the solution of Nature's problems. and have enabled us to give the reason for many things which, but for their genius and unremitting labors, would still be shrouded by the veil of ignorance.

Among the various works that have aided in the familiar exposition of science presented in this work may be mentioned the following: "Les Récréations Scientifiques," by Gaston Tissandier; "Astronomy," in the series of New Works on Physics by J. A. Gillet and W. J. Rolfe; "Physik und Meteorologie," by Dr. E. Lommel; "The Teacher's Examiner," by A. H. Thompson; "Guide to Familiar Science," by Rev. E. C. Brewer; "Lockyer's Solar Physics," Newcomb's "Popular Astronomy," etc., etc. We desire in an especial manner to thank Professors Rolfe and Gillet for the use of a number of beautiful and accurate astronomical illustrations from their excellent work.





THE FORCES OF NATURE, AND THE LAWS WHICH GOVERN THEM. THE ELEMENTS OF NATURAL SCIENCE.



ATURE is revealed to us by objects and by phenomena. An object is a thing which occupies space and which is susceptible to feeling and to sight. The heavenly bodies may also be classed as objects, although we cannot touch them. Phenomena include those results which are perceptible by only one sense, as thunder. Light and sound may also be classed as phenomena. A stone is a natural object. We take it up, open our fingers, and it falls. The motion of that object is a phenomenon. We know it falls because we see it fall, and it possesses what we term weight; but we cannot tell why it possesses weight. A cause of a phenomenon being independent of human will is called a force, and the stone falls by the force of gravitation, or that natural law which compels every material object to approach every other material object. A single force may produce a great number of phenomena.

Nature being revealed to us by objects, and by means of phenomena, we have two branches of science extending from such roots, namely, NATURAL HISTORY, the Science of Objects; and NATURAL PHILOSOPHY, the Science of Phenomena,

Both of these branches have been subdivided thus:

Natural History.

{
 Zoölogy, referring to Animals. Bology. Botany, referring to Plants. Mineralogy, Geology,

}
 Physics. Phenomena without essential change of the objects.
Chemistry. Phenomena with change of the objects.
Physiology. Phenomena of animated objects.

The two great divisions comprehend, in their extended senses, all that is known respecting the material world.

We have spoken of *objects*. Objects occupy *space*. What is space? Space is magnitude which can be conceived as extending in three directions—*length*, *breadth* and *depth*. MATTER occupies portions of space, which is infinite. Matter, when

finite, is termed a body or object. A *molecule* is the smallest portion of a body which we can conceive of as retaining its identity. An *atom* is a division of a molecule.

Suppose we take a quantity of water and conceive it to be divided until we reach a limit. The last particle which we could call water would be a molecule. Now let a current of electricity be passed through a quantity of water, and it is separated into two gases, essentially different from each other, and different from water. A given quantity of water will produce a certain quantity of gas, the proportion in volume of the two kinds being as I to 2. If one pint, say, of water produces one volume of one gas, and two of the other, one-half pint would produce one-half the amount of one gas and one-half the amount of the other, and so on down until we have made the ultimate division, which, for convenience, we call a molecule. Then we can truly say that the molecule is composed of two parts of one gas and one part of the other, and for convenience we call these parts of the molecules, atoms.

Physics deals only with masses and molecules. Chemistry deals with atoms. When we tear a piece of paper in pieces, or grind it to a pulp, we separate molecules and have effected a physical change only. When we burn the paper in the fire we separate atoms and have effected a chemical change. In the first case we have effected a change of form, but the matter is identically the same. In the second case, the gases and ashes produced by the burning are totally different, and the paper has lost its identity.

The sounding of a bell and the falling of a stone are physical phenomena, for the object which causes the sound or the fall undergoes no change. Heat is set free when coal burns, and this disengagement of heat is a physical phenomenon; but the change during combustion which coal undergoes is a chemical phenomenon.

The General Properties of Matter

Are magnitude, impenetrability, inertia, divisibility, porosity, elasticity, compressibility, expansibility and indestructibility.

Magnitude is the property of occupying space. Size is the amount of space a body fills. Every body has three dimensions—length, breadth and thickness; and, in order to measure these, some standard of measurement is required.

Impenetrability is the property of so occupying space as to exclude all other bodies; for no two bodies can occupy the same space at the same time. We sometimes speak of one substance penetrating another. Thus, a needle penetrates cloth, a nail penetrates wood, etc.; but on a moment's reflection it will be plainly seen that they merely push aside the fibers of the cloth or wood, and so press them closer together.

Inertia is the property of passiveness. Matter has no power of putting itself in motion when at rest. A body will never change its place unless moved, and if once started will move forever unless stopped. It is difficult to start a wagon because we have to overcome its inertia, which tends to keep it at rest. When the wagon is in motion it requires as great an exertion to stop it, since then we have again to overcome its inertia, which tends to keep it moving.

Inertia causes the danger of jumping from cars when in motion. The body has the speed of the train, while the motion of the feet is stopped by contact with the ground. One should jump as nearly as he can in the direction in which the train is moving, and with his muscles strained, so as to break into a run the instant his feet touch the ground. Then with all his strength he can gradually overcome the inertia of his body, and after a few feet can turn as he pleases.

Divisibility is that property of a body which allows it to be separated into parts. It would be impossible to find a particle so small that it still could not be made smaller. Practically speaking, there is no limit to the divisibility of matter; but philosophers hold that there is in theory. When we attempt to show how far matter can be divided, the brain refuses to grasp the infinity. A pin's head is a small object, but it is gigantic compared to some animals, of which millions would occupy a space no larger than the head of a pin. These tiny animals must have organs and veins, and those veins must be full of blood globules. Prof. Tyndall says a drop of blood contains three millions of red globules. But there is something even more astonishing than this. It is stated that there are more animals in the milt of a single codfish than there are men in the world; and that one grain of sand is larger than four millions of these animals, each of which must be possessed of life germs of an equal amount, which would grow up as it grew to maturity. This carries us back again, and

"Imagination's utmost stretch In wonder dies away."

Porosity is the property of having pores. By this is meant not only such pores as are familiar to all, and to which we refer when, in common language, we speak of a porous body, as bread, wood, unglazed pottery, a sponge, etc., but a finer kind, as invisible to the eye as the atoms themselves. These pores are

caused by the fact that the molecules of which a body is composed are not in actual contact, but are separated by extremely minute spaces.

Elasticity is classed both among the general and the specific properties of matter. It is thought that all bodies have elasticity, yet some have it in such a degree that it serves to distinguish them from other bodies.

Compressibility is that property of matter by virtue of which it may be made to occupy less space. It is a result of porosity, the molecules being pressed closer together.

Expansibility is the opposite of compressibility.

Indestructibility is the property which renders matter incapable of being destroyed. No particle of matter can be annihilated, except by God, its creator. We may change its form, but we cannot deprive it of existence.

The Specific Properties of Matter

Are those which are found only in particular kinds of matter. The most important are ductility, malleability, tenacity, elasticity, hardness and brittleness.

A ductile body is one which can be drawn into wire. Some of the most ductile are gold, silver, and platinum.

A malleable body is one which can be hammered or rolled into sheets. Gold is the most malleable of all metals, and can be beaten into sheets $\frac{1}{282000}$ of an inch in thickness. Copper is so malleable that it is said that a workman, with his hammer, can beat out a kettle from a solid block of the metal.

A tenacious body is one which cannot be easily pulled apart. Iron is the most tenacious of the metals.

There are three kinds of *elasticity*—elasticity of compression, elasticity of expansion, and elasticity of torsion.

Solids-Liquids-Gases.

Matter is present in Nature in three conditions. We find it as a solid, a liquid, and a gas. To test the actual existence of matter in one or other of these forms our senses help us. We can touch a solid, or taste it and see it. But touch is the test.

A solid is a body whose molecules cohere so that their relative positions cannot be changed without the application of considerable force. A solid will retain any shape given it.

A liquid is a body whose molecules cohere so slightly that their relative positions may be changed on the application of slight force. A liquid will assume the form of the vessel containing it, and the free surface will always be horizontal, each molecule seeking its lowest level by the force of gravity.

A gas is a body whose molecules separate almost indefinitely from each other. Essentially there is no difference between a gas and a vapor. The term gas is generally applied to those bodies which are ordinarily in a gaseous state, and the term vapor to that which is formed by heating a liquid or solid. Steam is the vapor of water, but it is a gas as much as oxygen or hydrogen.

The Forces of Nature.

Force is a cause—the cause of motion or of rest. It requires force to set an object in motion, and this object would never stop unless some other force or forces prevented its movement

beyond a certain point. Force, therefore, is the cause of a change of "state" in matter. The forces of Nature are three in number—gravity, cohesion, and affinity, or chemical attraction.

Gravity.

Gravity, or gravitation, is the mutual attraction between different portions of matter acting at all distances—the force of attraction being, of course, in proportion to the respective mass of the bodies. The greatest body, so far as our purposes are concerned, is the earth, and the attraction of the earth is gravity, or what we call weight. If we jump from a chair we shall come to the floor, and if there were nothing between us and the actual ground, sufficient to sustain the force of the attracting power of the earth, we should fall to the earth's surface. In a teacup-the spoon will attract air-bubbles, and large air-bubbles will attract small ones, till we find a small mass of bubbles formed in the center of the cup of tea. Divide this bubble, and the component parts will rush to the sides of the cup.

Two balls of equal magnitude will attract each other with equal force, and will meet, if not opposed, at a point half-way between the two. But they do not meet, because the attraction of the earth is greater than the attraction they relatively and collectively exercise toward each other. If the size of the balls be different, the attraction of the greater will be more evident.

FALLING BODIES.

Gravity is the cause of the phenomena of falling bodies, because every object on the surface of the earth is very much smaller than the earth itself, and, therefore, all bodies fall toward the center of the earth. On the earth a body, if let fall, will pass through a space of sixteen feet in the first second; and as the attraction of the earth still continues and is exercised on a body already in rapid motion, this rate of progress must be proportionately increased. The space a falling body passes through has been calculated, and found to increase in proportion to the square of the time it takes to fall. For instance, suppose you drop a stone from the top of a cliff to the beach, and it occupies two seconds in falling. If you multiply 2 by 2 and the result by 16, you will find how high the cliff is—64 feet. The depth of a well can be ascertained in the same way, leaving out the effect of air resistance.

But if we go up into the air, the force of gravity will be diminished. The attraction will be less, because we are more distant from the center of the earth. This decrease is scarcely, if at all, perceptible, even on very high mountains, because their size is not great in comparison with the mass of the earth's surface. The rule for this is that gravity decreases in proportion to the square of the distance. So that if at a certain distance from the earth's surface the force of attraction be I, if the distance be doubled the attraction will be only one-quarter as much as before—not one-half.

Gravity has exactly the same influence upon all bodies, and the force of the attraction is in proportion to the mass. All bodies of equal mass will fall in the same time in a given distance. Two coins, or a coin and a feather, in vacuo, will fall together. But in the air the feather will remain far behind the

coin, because nearly all the atoms of the former are resisted by the air, while in the coin only some particles are exposed to the resistance, the *density* of the latter preventing the air from reaching more than a few atoms, comparatively speaking.

Drops of water falling from the clouds do not strike with a force proportional to the laws of falling bodies. This is because they are so small that the resistance of the air nearly destroys their velocity. If it were not for this wise provision, a shower of raindrops would be as fatal as one of minie bullets.

The weight of a body varies on different portions of the earth's surface. It will be least at the equator: (1) because, on account of the bulging form of our globe, a body is there pushed out from the mass of the earth, and so removed from the center of attraction; (2) because the centrifugal force is there the strongest. It will be greatest at the poles: (1) because, on account of the flattening of the earth, a body is there brought nearer its mass and the center of attraction; (2) because there is no centrifugal force at those points. At the center of the earth the weight of a body is nothing, because the attraction is there equal in every direction.

THE CENTER OF GRAVITY.

The center of gravity is that point on which, if supported, a body will balance itself. In our daily actions are found many physiological applications of the center of gravity. When we wish to rise from the chair, we bend forward, in order to bring the center of gravity over our feet, our muscles not having sufficient strength to raise our bodies without this aid. And when we walk, we lean forward, so as to bring the center of gravity as far in front as possible.

SPECIFIC GRAVITY.

Specific gravity is the weight of a substance compared with the weight of the same bulk of another substance. It is really a method of finding the density of a body. Water is taken as the standard for solids and liquids, and air for gases.

THE PENDULUM.

The pendulum consists of a weight so suspended as to swing freely. Its movements to and fro are termed vibrations or oscillations. The path through which it passes is called the arc, and the extent to which it goes in either direction is styled its amplitude.

As "heat expands and cold contracts," a pendulum increases in length in summer and shortens in winter. Therefore, a clock loses time in summer and gains in winter.

CENTRIFUGAL AND CENTRIPETAL FORCE.

Centrifugal force, which means "flying from the center," is the force which causes an object to describe a circle with uniform velocity, and fly away from the center. The force that counteracts it is called the centripetal force.

To represent its action, an ordinary glass tumbler may be used. The tumbler should be placed on a round piece of cardboard, held firmly in place by cords. Some water is then poured into the glass, and it can be swung to and fro and round, without the water being spilt, even when the glass is upside down.

Cohesion.

Cohesion is the attraction of particles of Lodies to each other at very small distances apart. Cohesion has received various names in order to express its various degrees. For instance, we say a body is tough or brittle, or soft or hard, according to the degrees of cohesion the particles exercise. We know if we break a glass we destroy the cohesion; the particles cannot be reunited. Most liquid particles can be united, but not all. Oil will not mix with water.

The force of cohesion depends upon heat. Heat expands everything, and the cohesion diminishes as temperature increases.

There are some objects or substances upon the earth the particles of which adhere much more closely than others, and can only be separated with very great difficulty. These are termed solids. There are other substances whose particles can easily be divided, or their position altered. These are called fluids. A third class seem to have little or no cohesion at all. These are termed gases.

ADHESION.

Adhesion is also a form of attraction, and is cohesion existing on the surfaces of two bodies. When a fluid adheres to a solid we say the solid is wet. We turn this natural adhesion to our own purposes in many ways—we whitewash our walls, and paint our houses; we paste our papers together, etc.

On the other hand, many fluids will not adhere. Oil and water have already been instanced. Mercury will not stick to a glass tube, nor will the oiled glass tube retain any water. We can show the attraction and repulsion in the following manner: Let one glass tube be dipped into water and another into mercury; you will see that the water will ascend slightly at the side, owing to the attraction of the glass, while the mercury will be higher in the center, for it possesses no attraction for the glass. If small, or what are termed capillary (or hair) tubes, be used, the water will rise up in the one tube, while in the other the mercury will remain lower than the mercury outside the tube.

The law of adhesion is what necessitates the spout on a pitcher. The water would run down the side of the pitcher by the force of adhesion, but the spout throws it into the hands of gravitation before adhesion can catch it.

Affinity, or Chemical Attraction.

Affinity, or chemical attraction, is the force by which two different bodies unite to form a new and different body from either. This force will be fully considered in CHEMISTRY.

It is needless for us to dwell upon the uses of these forces of Nature. Gravity and cohesion being left out of our world, we can imagine the result. The earth and sun and planets would wander aimlessly about; we should float away into space, and everything would fall to pieces, while our bodies would dissolve into their component parts.

Motion.

Motion is a change of place. Absolute motion is a change without reference to any other object. Relative motion is a change with reference to some other object.

Rest is either absolute or relative. Velocity is the rate at which a body moves. Force, as has been said, is that which tends to produce or destroy motion.

The principal resistances to motion are friction, resistance of the air, and gravity.

Friction is the resistance caused by the surface over which a body moves. If the surface of a body could be made perfectly smooth, there would be no friction; but in spite of the most exact and complete polish, the microscope reveals minute projections and cavities.

Momentum is the quantity of motion in a body.

Two laws of motion: 1. A body once set in motion tends to move forever in a straight line. 2. A force acting upon a body, in motion or at rest, produces the same effect, whether it acts alone or with other forces.

Circular motion is a variety of compound motion produced by two forces, called the centrifugal and the centripetal. The former tends to drive a body from the center; the latter tends to draw a body toward the center.

Reflected motion is produced by the reaction of any surface against which an elastic body is thrown.

Curved motion.—Whenever two or more instantaneous forces act upon a body, the resultant is a straight line. When one is instantaneous and the other continuous, it is a curved line. And when a body is thrown into the air, unless it be in a vertical line, it is acted upon by the instantaneous force of projection and the continuous force of gravity, and so passes through a line which curves toward the earth.

Machines

Enable us to apply and direct the forces of nature. The *lever* and the *inclined plane*, and their modifications, the *screw*, the *wedge*, the *wheel and axle* and the *pulley*, constitute the elementary forms of machinery.

Power or energy, multiplied by the distance through which it moves, equals the weight, load or resistance multiplied by the distance. The fundamental law is, that what is gained in power is lost in time or distance. Thus, two pounds of power moving through ten feet equals twenty pounds moving through one foot.

A lever is an inflexible bar capable of turning on a fixed point. The force used is called the power, the object to be moved, the weight, and the fixed point or pivot, the fulcrum. There are three kinds of levers, as follows: I. Power at one end, weight at the other, fulcrum between them. 2. Power at one end, fulcrum at the other, and weight between them. 3. Fulcrum at one end, weight at the other, and power between them

The compound lever consists of several levers connected together in such a way that the short arm of one acts upon the long arm of the next, and so on.

The wheel and axle is a modification of the lever in which the center of the axis of the wheel is the fulcrum, the distance from the rim of the wheel to the axis, or the length of the crank, the long arm, and the distance from the circumference of the axis to its center, its short arm.

The pulley is a modification of the lever in which the distances

from the axis to the circumference represent equal arms of the lever. No advantage is gained in a fixed pulley except change of direction. By means of a number of movable pulleys the power distance is increased, the cord having to pass through a greater distance to gain greater power.

The *inclined plane* is a smooth, hard surface inclined so as to make an angle with direction of the force to be overcome. Comparing it with the lever, the length corresponds to the long arm and the height to the short arm.

The wedge is simply a movable inclined plane, its power depending upon friction as well as upon its form.

The screw is an inclined plane wound around a cylinder.

Perpetual Motion.

Nothing can be more utterly impracticable than to make a machine capable of perpetual motion. No machine can produce power; it can only direct that which is applied to it. We know that in all machinery there is friction; hence, this must ultimately exhaust the power and bring the motion to rest. These principles show the uselessness of all such attempts.

HYDROSTATICS AND HYDRAULICS.

Hydrostatics treats of liquids at rest. Its principles apply to all liquids, but water, on account of its abundance, is taken as the type of the class, and all experiments are based upon it.

Liquids transmit pressure in all directions. Pascal's law is as follows: Pressure exerted anywhere upon a mass of liquid is transmitted, undiminished, in all directions, and acts with the same force upon equal surfaces, and in a direction at right angles to those surfaces. A necessary inference from this law is that surfaces of vessels sustain a pressure proportional to their area.

A practical application of Pascal's law is the hydrostatic press, more generally called the hydraulic press. This is a very powerful machine, by means of which a pressure of several hundred tons may be obtained.

Artesian wells are so named because they have been used for a long time in the province of Artois, in France; they were, however, employed by the Chinese, from early ages, for the purpose of procuring gas and salt water. These are on the principle above stated, that liquids press equally in all directions—that water "always seeks its level." By boring through strata of rocks, or earth impervious to water, and striking a basin of water which has descended from a greater height, through a porous strata, a well is formed which throws water to almost the height of the fountain head, being retarded only by friction and resistance of the air.

The surface of standing water is said to be level; this is true for small sheets of water, but for larger bodies an allowance must be made for the circular figure of the earth.

The spirit level is an instrument used by builders for leveling; it consists of a slightly curved glass tube, so nearly full of alcohol that it holds only a bubble of air. When the level is horizontal, the bubble remains at the center of the tube.

Modern engineers carry water across a river by means of pipes laid under the bed of the river, knowing that the water

will rise on the opposite side to its level. The ancients appear to have understood this principle, but were unable to construct pipes capable of resisting the pressure.

Hydraulics treats of liquids in motion. In this, as in hydrostatics, water is taken as the type. In theory, its principles are those of falling bodies, but they are so modified by various causes that in practice they cannot be relied upon, except as verified by experiment. The discrepancy arises from changes of temperature, which vary the fluidity of the liquid, from friction, the shape of the orifice, etc.

A fall of only three inches per mile is sufficient to give motion to water, and produce a velocity of as many miles per hour. The Ganges descends but 800 feet in 1,800 miles; its waters require a month to move down this long inclined plane. A fall of three feet per mile will make a mountain torrent.

Barker's Mill consists of an upright cylinder with horizontal arms, and with apertures in the opposite sides, the cylinder being so arranged as to turn easily. When water is poured into the cylinder, the pressure being equal in all directions, it would remain at rest, did it not flow out at the orifices, thus relieving the pressure on the one side, causing the arm to move in the opposite direction and the cylinder to revolve. The Turbine water-wheel is a practical application of this principle.

PNEUMATICS

Treats of the general properties and the pressure of gases.

Gases have weight, compressibility, expansibility and elasticity, and the principles of transmission of pressure, specific gravity and buoyancy of liquids apply to them as well. The pressure of the air has been several times referred to. The force of air can very soon be shown as acting with considerable pressure on an egg in a glass. By blowing in a small wine glass, containing a hard-boiled egg, it is possible to cause the egg to jump out of the glass, and with practice and strength of lungs it is not impossible to make it pass from one glass to another. The force of heated air ascending can be ascertained by cutting a card into a spiral and holding it above a lamp or a stove. The spiral, if lightly poised, will revolve rapidly.

The barometer is an instrument for measuring the pressure of air, and consists essentially of an apparatus, first used by Torricelli, who took a glass tube about a yard in length, closed at one end, and filled it with mercury. Placing his thumb over the closed end, he immersed it in a vessel of mercury. Removing his thumb, the mercury sank until it stood at the height of 30 inches. The space above the mercury was as nearly a complete vacuum as has ever been attained. By this experiment he proved that the pressure of the atmosphere is equal to the weight of a column of liquid which it will sustain.

The barometer is used to indicate the weather, and to measure the height of mountains.

Three opposing forces act on the air, viz.: gravity, which binds it to the earth, and the centrifugal and the repellant (heat) forces, which tend to hurl it off into space. Under the action of the latter forces, the atmosphere, like a great bent spring, is ready to bound away at the first opportunity; but the attraction of the earth holds it firmly in its place.

The rise and fall of the barometric column shows that the air is lighter in foul and heavier in fair weather. In fair weather, the moisture of the air is an invisible vapor, mingled with it, and adding to its pressure, while in foul weather the vapor is separated in the form of clouds.

The common pump is an application of air pressure. The piston, or sucker, being raised, the water is forced up the tube by the pressure of the air on the surface of the water in the well, there being no resistance in the tube, for the piston lifts out the air. As the piston descends, the valve in it opens upward and allows the water to pass through above the valve, which, closing as it rises again, the water is lifted out and more is forced into the tube below. Owing to the necessary imperfection of the parts, water cannot be raised by atmospheric pressure more than about 27 feet.

The air-pump is a machine for removing the air from within a vessel. It consists of a cylinder supplied with a valve opening inward and one opening outward, and a piston fitting accurately. When the piston is raised, the air rushes into the cylinder through the first valve to fill the vacuum. As the cylinder descends, the air closes the first valve and opens the second, and is driven out, every stroke of the piston thus removing a portion of air. The escape valve may be in the side of the cylinder or in the piston itself.

The siphon consists of a tube, bent in the shape of a letter U, with unequal arms. Fill the siphon with water, closing both ends with the fingers. Insert the short arm in a vessel of water, with the long arm on the outside, with its end lower than the end of the short arm. The column of water in the long arm will run out by its own weight, and the tendency would be to produce a vacuum in the bend of the tube, but the water is forced up by the pressure of air through the short arm, and thus the stream is kept up so long as the outside arm is lower at its orifice than the orifice of the inside arm. The flow may be started by exhausting the air from the long arm by suction, and then it will not be necessary to fill the siphon with water.

ACOUSTICS.

Acoustics treats of the doctrine of sound. The term sound is used in two senses—the subjective, that which has reference to our mind; and the objective, that which refers only to the objects around us.

In the subjective sense, sound is the sensation produced upon the organ of hearing by vibrations in matter. In this use of the word, there can be no sound where there is no ear to catch the vibrations.

In the objective sense, sound is those vibrations of matter capable of producing a sensation upon the organ of hearing. In this use of the word, there can be a sound in the absence of the ear. An object falls and the vibrations are produced, though there may be no organ of hearing to receive an impression from them.

The velocity of sound depends on the elasticity and density of the medium through which it passes. The higher the elasticity, the more promptly and rapidly the motion will be transmitted, since the elastic force acts like a bent spring between the molecules. The greater the density, the more molecules to be set in motion, and hence the slower the transmission.

Sound travels through the air (at the freezing point) at the rate of 1,000 feet per second. A rise in temperature diminishes the density of the air, and thus sound travels faster in warm and slower in cold air. Through water sound travels at the rate of 4,700 feet per second. Water is denser than air, and for that reason sound should travel in it much slower; but its elasticity, which is measured by the force required to compress it, is so much greater that the rate is quadrupled. Sound travels through solids faster than through air; and the velocity in iron is nearly ten times greater. Under ordinary circumstances, all sounds travel with the same velocity.

When a sound-wave strikes against the surface of another medium, a portion goes on while the rest is reflected. The law which governs reflected sound is that of reflected motion—the angle of incidence is equal to that of reflection.

The air at night is more homogeneous than by day; consequently, sounds are heard more clearly and farther than in the daytime.

If two sounds meet in exactly opposite phases, and the two forces are equal, they will balance each other, and silence will ensue. Thus, a sound added to a sound will produce silence. In the same way, two motions may produce rest: two lights may cause darkness, and two heats may produce cold.

The difference between noise and music is only that between irregular and regular vibrations. Whatever may be the cause which sets the air in motion, if the vibrations be uniform and rapid enough, the sound is musical. If the ticks of a watch could be made with sufficient rapidity, they would lose their individuality, and blend into a musical tone.

Wind instruments produce musical sounds by means of inclosed columns of air. Sound-waves run backward and forward through the tube, and act on the surrounding air like the vibrations of a cord.

The Telephone is an instrument which has, in a few years, come into almost general use, and which is beginning to rival the electric telegraph as a means of rapid communication. By means of it articulate speech or other sounds are reproduced at great distances. In the acoustic, or string telephone, it is only necessary to have a membrane which can be set in vibration by the impulses of the air made by the voice on an instrument, and a string or wire attached to it to carry the vibrations to a similar membrane at the other end. This second membrane gives back to the air the same kind of vibration received at the other end. In the electric telephone the vibrations of the membrane cause changes in the electric current, produced by a battery, these changes being capable of reproducing the same kind of vibrations in the membrane at the opposite end.

The Microphone is an instrument which, in its main features, consists of a carbon "pencil," so suspended that one end rests upon a carbon "die." The instrument, being connected with a telephone by the circuit wires, will reproduce faint sounds very distinctly. The upright carbon is thrown into vibrations by the impulse of the sound, which alternately lengthens and shortens it. This, by impairing or strengthening the connection of the

circuit, alternately lessens and strengthens the force of the current. Corresponding to these electric changes, the membrane of the telephone vibrates and gives out sound. It is so sensitive that the walking of a fly on the sounding-board may be distinctly heard at the telephone, and the ticking of a watch sounds like blows of a hammer.

The *Phonograph* is an instrument which registers the different vibrations produced by sound, and reproduces them in correspondence with this registration. It consists of a mouth-piece and vibrating membrane, the same as the telephone, with a needle attached to the center of the membrane, the vibrations of which cause the needle to make impressions on a strip of tin foil, rolled on a grooved revolving cylinder. By so adjusting the machine that the needle may retrace its path on the tin foil, the membrane is set in vibration again and the sounds are given back exactly as they were received. Articulate speech, as well as all other noises, is reproduced with wonderful distinctness.

With the *Photophone*, sounds may be heard at a distance by means of light. Changes are produced in the electric current by the light falling on a plate of "selenium." With this exception the principle is the same as in the ordinary telephone.

The Audiphone is an instrument to convey sound to the ear, to supplement it when partial or temporary deafness has occurred. The instrument has the appearance of a large, black fan, is made of vulcanized rubber, and consists of a long, flexible disc, supported by a handle. To the upper edge of the "fan" are attached cords, which pass through a clip on the handle. If the person who wishes to hear by means of the audiphone will hold the fan against the upper teeth—the convex side of the fan outward—he or she will hear distinctly, for the vibrations of sound are collected and strike upon the teeth and bones, and act upon the auditory nerves from within, precisely as the vibrations act from without through the auricle.

The Topophone, an apparatus for discovering the position of a sound, is based upon the well-known theory of sound-waves. It is claimed for this apparatus that it stands in the same relation to the sailor as his old and trusty friends the compass and sextant, as it will tell him whence a sound arises, and this in a fog is no mean advantage. The whole theory of the topophone, however, depends for its usefulness upon the same note being sounded by all horns and whistles. The note C treble, caused by about 260 vibrations per second, has been found most applicable, and if all whistles and fog-horns can by law be compelled to adjust themselves to this note, the topophone will prove a real and lasting benefit.

OPTICS

Is the science which treats of light and vision. Light is a vibratory motion, like sound and heat, transmitted through a medium called ether. This medium is a very elastic substance surrounding us, and constituting a kind of universal atmosphere, diffused throughout all space. It is so subtle that it fills the pores of all bodies, eludes all chemical tests, passes in through the glass receiver and remains even in the vacuum of an airpump.

A luminous body is one that emits or sends forth light. A non-luminous body is one that reflects light, and is visible only in the presence of a luminous body. A medium is any substance through which light passes. A transparent body is one that offers so little obstruction to the passage of light that we can see objects through it. A translucent body is one that lets some light pass, but not enough to render objects visible through it. An opaque body is one that does not transmit light.

The three great laws governing light are: 1. Light passes off from a luminous body equally in every direction. 2. Light travels through a medium of uniform density in straight lines.
3. The intensity of light decreases as the square of the distance increases.

The velocity of light is about 185,000 miles per second. This is so great that, for all distances on the earth, it is practically instantaneous.

When a beam of light from a luminous body falls upon the surface of an opaque body a portion is *reflected* and a portion absorbed. When light passes from one medium to another of different density it is *refracted*, that is, bent out of its regular course.

Diffraction of light is caused by a beam of light passing along the edge of some opaque body. As the waves of ether strike against it, they put in motion another set of waves on the opposite side which interfere with the first system.

The rainbow is formed by the refraction and reflection of the sunbeam in drops of falling water. Halos, coronas, sundogs, circles about the moon, the gorgeous tinting at sunrise and sunset, are all produced by the refraction and reflection of the sun's rays when passing through the clouds in the upper regions of the atmosphere. The phenomenon familiarly known as the "sun's drawing water" consists merely of the long shadows of broken clouds.

The mirage is fully explained under the head of Physical Geography.

If a sunbeam be passed through a prism the light is decomposed and appears as a band of seven colors, viz.: violet, indigo, blue, green, yellow, orange, red. These are called the colors of the solar spectrum.

A lens is a transparent body, generally of glass, having one or two curved surfaces. A convex lens converges the rays of light, or brings them to a focus at a point, varying in distance, according to the degree of convexity. A concave lens causes the rays of light to diverge. If the eye be placed at the point where the rays from an object are brought to a focus by a convex lens, the object will appear magnified, while the same object seen through a concave lens will appear diminished. A "burning glass" is a convex lens, converging the rays of the sun.

Rays which pass through a lens near the edge are brought to a focus sooner than those near the center; therefore, when an image is clear around the edge, it will be indistinct at the center, and vice versa. This wandering of the rays from the focus is termed spherical aberration.

Chromatic aberration is caused by the different refrangibility of the several colors which compose white light. The violet, being bent most, tends to come to a focus sooner than the red, which is bent least. This causes the play of colors seen around the image produced by an ordinary glass. It is remedied by using a second lens of different dispersive power, which counteracts the effects of the first.

Microscopes are of two kinds—simple and compound. The former consists of a double convex lens; the latter contains at least two lenses.

Telescopes are of two kinds—reflecting and refracting. The former contains a large, metallic mirror, which reflects the rays of light to a focus; the latter, like the microscope, contains an object-lens which forms an image.

The opera-glass contains an object-glass and an eye-piece. The latter is a double concave lens. This increases the visual angle by diverging the rays of light, which would otherwise come to a focus beyond the eye-piece.

The camera used by photographers contains a double convex lens, which throws an inverted image of the object upon the ground glass screen.

The three kinds of mirrors are plane, concave and convex. The first has a flat surface; the second, one like the inside, and the third, one like the outside of a watch crystal. The general principle of mirrors is that the image is always seen the the direction of the reflected ray as it enters the eye.

HEAT

Is now known to be a series of vibrations, or vibratory motions, as sound vibrations, which we cannot hear nor see, but the effects of which are known to us as light and heat. In other words, heat is now believed to be the effect of the rapid motion of all the molecules of a body. If this motion be increased the body is said to be heated; if decreased, it is cooled. Cold is a merely relative term, indicating the absence of heat in a greater or less degree.

The sources of heat are the sun, moon and stars, mechanical and chemical action. The greater part of the heat of our globe comes from the sun, and only a very minute quantity from the other heavenly bodies. Great heat may be developed by mechanical action, as friction and concussion. Count Rumford caused water to boil by the friction of metals. A blacksmith can make a piece of iron red hot by hammering. The flint strikes fire from the steel, particles of the metal being torn off and heated to redness. Chemical action is seen in the combustion of fuel, the union of oxygen with carbon and hydrogen.

All bodies expand under the effects of heat, for by its addition the molecules are urged into swifter motion, and therefore pushed further apart, increasing the size of the body. Hence the law, "Heat expands; cold contracts."

If heat be applied to a liquid, the temperature rises until the boiling point is reached, when it stops. The expansion, however, continues until the motion is so violent as to overcome the cohesive force and to throw off particles of the liquid. When we heat water, the bubbles which pass off first contain merely the air dissolved in the liquid; next bubbles of steam form on the bottom and sides of the vessel, and, rising a little distance, are crushed in by the cold water and condensed. In breaking they

produce that peculiar sound known as "simmering," and ascend higher and higher as the temperature of the water rises, until at last they break at the surface, and the steam passes off into the air.

Any substance which increases the cohesive power of water elevates the boiling point, and for this reason salt water boils at a higher temperature than fresh water.

Evaporation is a slow formation of vapor, which takes place at all ordinary temperatures. It is hastened by an increase of surface and a gentle heat. This principle is made useful in the arts for separating a solid from the liquid which holds it in solution.

Vacuum pans are largely employed in condensing milk, in the manufacture of sugar, etc.; and are so arranged that the air above the liquid in the vessel may be exhausted, and then the evaporation takes place very rapidly, and at so low a temperature that all danger of burning is avoided.

Absorption and reflection are intimately connected with radiation. A good absorber is also a good radiator, but a good reflector can be neither. Snow is a good reflector but a poor absorber or radiator. Light colors absorb less and reflect more than dark colors. White is the best reflector, and black the best absorber and radiator.

On the Desert of Sahara, where "the soil is fire and the wind is flame," the dry air allows the heat to escape through it so readily that ice is sometimes formed at night. The dryness of the air at great elevations accounts, in part, for the coldness which is there felt so keenly.

The thermometer is an instrument to measure the temperature by means of the expansion of mercury. The principal scales used are: Fahrenheit's, in which the space between the two fixed points, boiling and freezing, is divided into 180 degrees; the Centigrade, in which this space is divided into 100 degrees; Reaumur's, in which it is divided into 80 degrees. Mercury freezes only at 39° Fahr. below zero, and consequently it is most generally used in thermometers. Alcohol is used only for very low temperatures.

Water changes from the liquid to the gaseous state, or boils, at the level of the sea, at a temperature of 212° F. As we ascend above this level the pressure of the atmosphere is less, and it boils at a lower degree.

The steam engine is a machine for using the elastic force of steam as a motive power. There are two classes of engines—the high-pressure and the low-pressure. In the former the steam, after being employed to do its work, is forced out into the air; in the latter it is condensed in a separate chamber by a spray of cold water. As the steam is condensed in the low-pressure engine a vacuum is formed behind the piston, while the piston of the high-pressure engine acts against the pressure of the air. The governor is an apparatus for regulating the supply of steam. When a machine is going too fast, the balls fly out by centrifugal force and shut off a portion of the steam; when too slowly, they fall back, and, opening the valve, let on the steam again. The fly-wheel, by its inertia, serves to render the movement of the machinery uniform.

MAGNETISM AND ELECTRICITY.

Magnetism is that branch of science which treats of the properties of the magnet. Certain specimens of iron ore have the property of attracting iron and some of its ores, and are called natural magnets or loadstone. When freely suspended they will point to the poles. An artificial magnet is a magnetized piece of steel, either straight or bent in the form of a horseshoe.

The production of magnetism by induction is a curious phenomenon. If a permanent magnet is brought near a handful of iron nails it will attract them to it, and as soon as a nail becomes attached to the magnet it becomes a magnet itself and attracts another nail, which in turn becomes a magnet and attracts another, and so on, the magnetic power of each new nail attracted becoming constantly less than that of the preceding one. It is not even necessary that the nail should absolutely touch the magnet in order to assume this magnetic power, for it will be transmitted through short spaces from one to the other. This power which a body acquires by being brought near a magnet is called magnetic induction. An important fact in this connection is that when a coil of iron wire is made to surround a permanent magnet it becomes magnetic itself by induction, and is capable of inducing magnetism in another bar of iron surrounded by it. This principle is made practical use of in the construction of the telephone and magnetic telegraph.

The greatest electric power of a magnet is at its ends, which are called *poles*. The end pointing to the north, when suspended, is the north or positive pole, the other being the south or negative. Like poles repel, and unlike poles attract each other.

The compass is a magnetic needle used by mariners, surveyors, etc. It is very delicately poised over a card, on which the "points of the compass" are marked. The needle does not often point directly north and south. The "line of no variation," as it is called, runs in an irregular course through the United States from Cape Lookout, across Lake Erie to Hudson's Bay. East of this the variation is toward the west, and west of it it is toward the east. The earth itself is a great magnet, and this explains why the needle points north and south.

A dipping needle is one which is free to turn in a vertical plane. At the equator it is horizontal, but as it is carried toward the north it dips, or inclines toward the center of the earth. At a place near Hudson's Bay it stands vertical. This is called the north magnetic pole. It does not coincide with the geographical pole.

Electricity is that science which unfolds the phenomena and laws of the electric fluid. Electricity may be generated by means of friction, percussion, heat, chemical action, cleavage, and by magnets. The effects of electricity in its various forms are manifested as attraction, repulsion, light, heat, violent commotions and chemical decomposition.

The first method of producing electricity, discovered in the earlier ages, was by rubbing amber, and so the term electricity was derived from the Greek word *elektron*, signifying amber. It was afterward found that certain other substances, when rubbed, assumed electrical properties, and would attract or repel

other materials. This electricity produced by rubbing or friction can be held for a considerable length of time, and hence it has received the name of stationary or statical electricity. This is the only form of electricity that we can store up and keep for a time. What is known now as the storage battery does not really store up electricity, but only energy, which can be transformed into electricity at will.

Dynamical electricity, or electricity in motion, circulates only in a conductor or along a wire, and cannot be held. It was first discovered by Galvani in experimenting on frogs' legs, and hence it is often called galvanic electricity. It is now ordinarily produced by means of galvanic batteries and dynamo machines.

The third form of electricity is called magnetic electricity, or magnetism.

According to the generally accepted theory, there are two so-called electrical fluids, and these two are commingled in equal proportions in all bodies; and hence all the processes for getting electricity must result in pulling these two electrical fluids apart, and in taking a portion of one away from a body. These two fluids are called, one positive and the other negative electricity. It is found that when two bodies are electrified with the same kind of electricity they repel each other; but when the two bodies are charged with opposite kinds of electricity, or when one body is charged with either kind while the other is left in its normal condition, then the two bodies attract each other.

When a piece of sealing-wax is rubbed it manifests electrical properties for some time, but certain other substances, like metals, for instance, after being rubbed in the same manner, show no electrical properties, and this is because the electricity easily gets away from them. Thus we find that while certain substances remain electrified for some time, others do not, and hence these bodies are named conductors and non-conductors. These terms are not absolute, but only comparative. The metals, carbon, gypsum and acids are called good conductors. while amber, glass, sulphur and silk are poor conductors. If we want to insulate electricity and keep it from running off into surrounding objects, we surround the object containing it with a poor conductor. Thus, the glass insulators on telegraph poles prevent the electricity from leaving the wires and running off into the ground, and the non-conducting materials placed around the wires of the Atlantic cable so protect it that a small charge of electricity will carry a message from here to Europe.

Great difficulty is experienced in experimenting with statical electricity, because it so easily gets away. All substances are conductors to a greater or less degree, including the dust in the air and the moisture in the atmosphere. Perfect insulation and a warm, dry air are, therefore, favorable conditions for holding statical electricity. The reason it was not used earlier for practical purposes was because it was so difficult to manage. The electricity which is produced on glass by friction is called vitreous or positive, while that produced in the same manner on shellac or sealing-wax is called resinous or negative electricity.

All bodies are, as has been said, charged with an equal amount of the two electrical fluids called positive and negative, but when a body is electrified these two fluids are separated so that one remains in excess of the other. There is always a passage of the electrical fluid in two directions, along a conductor, but when the direction of the current is spoken of, it is the direction of the positive current that is always meant. Statical electricity can also be produced by pressure, as when certain crystals are firmly pressed together; by cleavage, as when two layers of mica are split apart; and by heat, as well as by friction. It may also be produced by torsion. It is found that the charge of electricity, if collected in a spherical body, is on the outside, and not within the body; and if it is not a spherical body, the electricity cellects chiefly at the part most nearly pointed.

Electrical Machines.

Machines for producing statical electricity are usually based on the friction method. The old-fashioned machine consisted of a circular glass plate, which was rotated between two cushions, and the electricity thus produced was taken off and carried to a metallic cylinder, called the prime conductor, by means of metal points. Silk and glass as insulators prevented the electricity from running off into neighboring objects. More recently machines have been constructed on the principle of induction, as illustrated in the electrophorus.

The Leyden Jar.

The condensation of electricity is illustrated in the Leyden jar. This is a sort of bottle, lined up to a short distance from its top, both inside and outside, by tin-foil, and in the stopper is a brass knob, which is connected with the tin-foil on the inside of the jar by a chain. When the knob is charged with positive electricity from a machine, it collects on the tin-foil inside the jar, while a corresponding amount of negative electricity collects on the outside of the jar. By this means a large amount of electricity may be collected and held by the jar until discharged, by making connection between the tin-foil on the inside and that on the outside of the jar. The electricity is held, not on the tin-foil, but on the surface of the glass. This is proved by means of a jar that can be taken to pieces after being charged. Although the two pieces of metal which lined the inside and outside are now brought in contact, yet when the whole is put together again, the charge is found to remain, and it is discharged by connecting the knob with the metal lining of the outside. All that these metal linings accomplish here is to make a large conducting surface over the whole of the glass upon which the electricity collects.

The discharge of electricity from such a jar, or a battery of several of them connected, produces a variety of results. The spark will pass through a thin plate of glass or a card, and make a hole in them by disrupting them; or, in passing through points of metal, it heats them to a high temperature and vaporizes them, so that we get luminous effects from them.

Lightning

Is only the discharge of a Leyden jar on the grand scale upon which Nature performs her operations. Two clouds charged with opposite electricities, and separated by the non-conducting air, approach each other. When the tension becomes sufficient to overcome the resistance, the two forces rush together with a blinding flash and terrific peal. The lightning moves along the

line where there is the least resistance, and so describes a zig-zag course. If we can trace the entire length, we call it chain lightning; if we only see the flash through intervening clouds, it is sheet-lightning; and if it is the reflection of distant discharges, we term it heat-lightning. The report of thunder is caused by the clashing of the atoms of displaced air. The rolling of the thunder is produced by the reflection of the sound from distant clouds. Sometimes the clouds and the earth become charged with opposite electricities, separated by the non-conducting air.

Lightning-rods are based on the principle that electricity always seeks the best conductor.

Providence has provided a harmless conductor in every leaf, spire of grass, and twig. A common blade of grass, pointed by Nature's exquisite workmanship, is three times more effectual than the finest cambric needle, and a single pointed twig than the metallic point of the best constructed rod.

The duration of the lightning flash has been estimated at onemillionth of a second. Some idea of its instantaneousness can be formed from the fact that the spokes of a wheel, revolved so rapidly as to become invisible by daylight, can be distinctly seen by a spark from a Leyden jar. Wheatstone considered the velocity of lightning through a copper wire to be 288,000 miles per second.

Lightning sometimes passes upward from the earth, both quietly and by sudden discharge.

Dynamical Electricity.

Now, a few words in regard to dynamical electricity. Galvani discovered, in experimenting on frogs, that when two pieces of metal, like copper and zinc, were placed in contact with the frog's leg and their ends connected, a movement of the leg would take place. Volta developed the voltaic pile, which at first consisted of alternate layers of zinc, wet paper, and copper, piled one on top of the other in varying numbers. It was found that when the top layer was connected with the bottom one, by means of wires, a current of electricity was set up. It became understood then, that the electricity was produced by the chemical action of the water in the paper on the zinc, and so more solvent fluids came to be used instead of water, and cloth was substituted for the paper.

The Galvanic Battery

Is simply a combination by which we produce this chemical action, and zinc is the metal acted upon. If a piece of copper and a piece of zinc be placed in water, containing a little sulphuric acid, and the ends of the copper and zinc be brought together, or connected by wires, a current of electricity will be established between them. A spark may be seen in the dark if the two wires are brought near together, but not in actual contact. This electricity is produced by the chemical action of the acid on the metal, and is called voltaic or galvanic electricity. A glass vessel containing the metals and acid is called a cell, and several cells connected together constitute the battery. The metal plate in which the chemical action is greatest is called the positive plate, and the other the negative plate. The free ends of the wires are called electrodes. The one attached to the positive plate is the negative electrode, and vice versa.

While zinc is universally used for one element, the second element in the battery may be composed of different kinds of metals, according to convenience.

A difficulty in using zinc as the positive element was soon found in the fact that little local currents were set up between it and the impurities contained in it, and this caused an unnecessary waste of the zinc. So it became customary to amalgamate the zinc in order to prevent this local action of the fluid upon it. The next improvement made was to prevent the little bubbles of hydrogen from collecting on the surface of the copper, thus keeping the liquid from coming in contact with it in all partsthat is, to prevent the "polarization" of the copper. For this purpose certain substances came to be used to absorb the hydrogen. The first of these substances was the sulphate of copper as used in the Daniells battery. This consisted of a copper vessel containing a porous cylinder in which was suspended a rod of zinc. Dilute sulphuric acid was contained in this cylinder, and in the copper vessel outside of the cylinder was placed a solution of the sulphate of copper. In this battery the hydrogen set free decomposes the sulphate of copper, forming with it sulphuric acid, and sets free copper which collects on the copper element.

Grove's battery consists of a glass vessel containing a porous cup, surrounded on the outside by a coil of amalgamated zinc, and on the inside is suspended a rod of platinum, instead of copper. The vessel outside of the porous cup is filled with dilute sulphuric acid, and inside with strong nitric acid. The nitric acid absorbs the hydrogen set free by the sulphuric acid and zinc. In the bichromate battery, the bichromate of potash dissolved in sulphuric acid is used to absorb the hydrogen, and chromic acid is formed. So the three substances in use for absorbing the hydrogen in different kinds of batteries are sulphate of copper, nitric acid and bichromate of potash. Bunsen suggested the use of gas carbon to take the place of the copper. His battery consists of a cylinder of carbon immersed in a vessel containing nitric acid, and within this cylinder is a porous cell containing sulphuric acid, in which the zinc is suspended. To avoid using the porous cups, the force of gravity has been brought into play in the construction of the so-called "gravity battery." This consists of a glass vessel with plates of copper at its bottom, and upon this crystals of sulphate of copper are scattered, while over all is poured pure water, in the upper portion of which is suspended a plate of zinc. A very little sulphuric acid is added to start the battery, and then its action will keep up. Gravity here keeps the two liquids apart—the solution of sulphate of copper at the bottom, and the dilute solution of sulphuric acid at the top. This battery produces a constant current, and will run for a very long time. The Leclanche battery consists of a porous cup containing sal ammoniac, in which is suspended a rod of zinc, and this cup is surrounded by the oxide of manganese as a depolarizer, immersed in which is the carbon. This battery is used when a current of electricity is desired for a very short time at once, as in striking burglar alarms, signal bells, etc. The galvanic battery is now being replaced for many purposes by dynamo-electric machines.

Electrolysis and Galvanoplasty.

A current of electricity passed through certain substances will decompose them, and this process is called *electrolysis*. Water may, for example, be thus separated into two gases, oxygen and hydrogen. The process of depositing metals by means of electricity is known as *galvanoplasty*.

Electroplating, sometimes called galvanising, is the process of coating one metal with another by means of a galvanic battery. Gold and silver are deposited most readily on German silver, brass, copper, or nickel silver, the last mentioned being a composition of copper, zinc and nickel. Vessels to be plated with silver, for example, are thoroughly cleansed, and then hung in a solution of silver from the negative pole, while a plate of silver is suspended on the positive pole. In about five minutes a mere "blush" of the metal will be deposited, which perfectly conceals the baser metal and is susceptible of a high polish.

A vessel is gold-lined by filling it with a solution of gold, suspending in it a slip of gold from the positive pole of the battery, and then attaching the negative pole to the vessel; while the current passing through the liquid causes it to bubble like sodawater, and in a few moments deposits a thin film of gold.

Electrotyping is a process much used in copying medals, wood cuts, type, etc. An impression of the object is taken with gutta-percha, or wax; the surface to be copied is brushed over with black-lead to render it a conductor. The mold is then suspended in a solution of sulphate of copper, from the negative pole of the battery; a plate of copper is hung opposite on the positive pole. The electric current decomposes the sulphate of copper; the metal goes to the negative pole and is deposited upon the mold, while the acid, passing to the positive pole, dissolves the copper, and thus preserves the strength of the solution.

The Electric Light, Telegraph, Etc.

If a strong current of electricity is sent along a good conductor, it passes very easily; but if passed along a poor conductor, it makes it hot. This is the principle upon which is based the incandescent electric light. A current sent over a fine thread of carbon heats it to a white heat, and thus produces a brilliant light. The same principle holds in the arc light, where the air acts as the poor conductor. Here two pointed sticks of carbon are placed in contact until a current is started through them, and then they are gradually separated for a short distance, when the resistance offered by the air to the passage of the electricity from one point to the other heats them to incandescence, and small particles of carbon in a state of combustion are broken off and carried through the air, thus causing an arc of light between the carbon points. The incandescent electric light and the arc light form two systems of electric lighting.

The galvanometer is the most convenient method of measuring a current of electricity. This is a rotating needle, around which the current is passed.

The electric telegraph is an arrangement for sending messages by means of signals made by breaking and closing a voltaic circuit.

The telephone, microphone, etc., have been explained under the head of Acoustics.



HEMISTRY is the science of atoms. It detects their relative power, their laws of combination and their means of decomposition. It enables us to understand the construction of bodies, and is one of the most instructive and useful studies. As astrology preceded astronomy, so alchemy paved the way for chemistry. For centuries learned but misguided men sought in vain the "elixir of life," a universal medicine to enable man to attain the longevity of the antediluvians, and groped for the "philosopher's stone," which, it was believed, could turn the baser metals into gold and silver. Gradually, however, the fallacy of alchemy was revealed, until Chemistry enlightened the world and demonstrated that it is impossible to change one element into another.

In nature we have simple and compound bodies, and the former are called elements. These must not be confounded with the so-called elements—earth, air, fire and water, which are really compound bodies. An element in chemistry is any substance which cannot be separated into two or more distinctly different substances. The number of these simple elements at present recognized is 65, divided into non-metallic and metallic. The non-metallic elements are called "metalloids." The list of the elements is as follows:

Non-Metallic Elements.	Symbols. Atomic or Combining	METALS, (CONTINUED.)	Symbols. Atomic or Combining Weights.
Oxygen Hydrogen Hydrogen Chlorine Fluorine Fluorine Carbon Sulphur Phosphorus Arsenice Sificon Boron Silenium Tellurium Bromine Fluid	O 16 H 1 N 14 Cl 35 I 127 F 19 C 12 S 32 P 31 As 75 Si 28 B 11 Se 79 Te 129	Iridium Lron Lanthanum Lead Lithium Magnesium Manganese Mercuty Molybdenum Nickel Niobium (Columbium) Osmium Palladium Platinum Potassium (Kalium)	Ir198 Fe56 La139 Pb207 Li 7 Mg 24 Mn 55 Hg200 Mo 96 Ni 58 Nb 94 Os 199 Pl106 Pt197 K 39
METALS. Aluminium Antimony (Stibium) Barium Bismuth Cadmium Casium Calcium Cerium Chromium Cobalt Copper Didymium Erbium Gallium Gucinum Gold Indium	Al 27 Sb 122 Ba 137 Bi 210 Cd 133 Ca 40 Ce 141 Cr 52 Co 58 Cu 63 D 147 E 70 Gl 9 Au 197 In 113	Rhodium Rubidium. Ruthenium Silver (Argentum) Sodium (Natrium) Strontium Tantalum Terbium Thallium Thorium Tin (Stannum) Titanium Tungesten (Walpam). Uranium Yunanium Ytrium Zinc Zinc Zirconium	Rh 104 Rb 104 Rg 108 Ru 104 Rg 108 Rr 182 Tr 182 Tr 182 Tr 230 Sn 118 Th 230 W 184 U 240 U 240 U 51 Y 93 Zn 65 Zr 89

* Sometimes considered a non-metallic and sometimes a metallic sub-

The term "combining weight" requires a little explanation. Water, for instance, is made up of oxygen and hydrogen in certain proportions. The proportions are in eighteen grains or parts of water, sixteen parts (by weight) of oxygen, and two parts (by weight) of hydrogen. These are the weights or proportions in which oxygen and hydrogen combine to form water, and such weights are always the same in these proportions. Chemical combination always occurs for certain substances in certain proportions which never vary in those compounds, and if we wish to extract oxygen from an oxide we must take the aggregate amount of the combining weights of the oxide, and we shall find the proportion of oxygen; for the compound always weighs the same as the sum of the elements that compose it. To return to the illustration of water. The molecule of water is made up of one atom of oxygen and two atoms of hydrogen. One atom of the former weighs sixteen times the atom of the latter. The weights given in the foregoing table are atomic weights, and the law of their proportions is called the Atomic Theory.

An atom in chemistry is usually considered the smallest quantity of matter that exists, and is indivisible. A molecule is supposed to contain two or more atoms, and is the smallest portion of a compound body. The standard atom is hydrogen, which is put down as I, because we find that when one part by weight of hydrogen is put in combination, it must have many more parts by weight of others to form a compound. Two grains of hydrogen, combining with sixteen of oxygen, makes eighteen of water, as we have already seen.

The red oxide of mercury contains sixteen parts by weight of oxygen to two hundred parts by weight of mercury (we see the same numbers in the table); these combined make two hundred and sixteen parts of oxide. So, to obtain sixteen pounds of oxygen, we must get two hundred and sixteen pounds of the powder. It is the same all through, and it will be found by experiment, that if any more parts than these fixed proportions be taken to form a compound, some of that element used in excess will remain free. Lime is made up of calcium and oxygen. We find calcium combining weight is forty, oxygen sixteen. Lime is oxide of calcium in these proportions (by weight).

When we wish to express the number of atoms in a compound, we write the number undermeath when more than one; thus water is H₂ O. Sulphuric acid, H₂ SO₄.

In chemistry we have acids, alkalis and salts, with metallic oxides, termed bases, or bodies that, when combined with acids, form salts. Alkalis are bases.

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ACIDS are compounds which possess an acid taste, impart red color to vegetable blues, but lose their qualities when combined with bases. Hydrogen is present in all acids. There are insoluble acids. Silicic acid, for instance, is not soluble in water, has no sour taste, and will not redden the test litmus paper. On the other hand, there are substances, not acids, which possess the characteristics of acids, and most acids have only one or two of these characteristics. Thus it has come to pass that the term "acid" has, in a measure, dropped out from scientific nomenclature, and salt of hydrogen has been substituted by chemists. For popular exposition, however, the term is retained.

ALKALIS are bases distinguished by an alkaline taste. The derivation is from the Arabic, al-kali. They are characterized by certain properties, and they change vegetable blues to green, and will restore the blue to a substance which has been reddened by acid. They are soluble in water, and the solutions are caustic in their effects. Potash, soda and ammonia are alkalis, or, chemically, the oxides of potassium; sodium, ammonium, lithium and cæsium are all alkalis. Potash is sometimes called "caustic" potash. There are alkaline earths, such as oxides of barium, strontium, etc. Baser may be defined as the converse of acids.

Acids and alkalis are then evidently opposite in character, and yet they readily combine, and we find that unlike bodies are very fond of combining (just as opposite electricities attract each other), and the body made by this combination differs in its properties from its constituents.

SALTS are composed of acids and bases, and are considered mentral compounds, but there are other bodies, not salts, which likewise come under that definition—sugar, for instance. As a rule, when acids and alkalis combine salts are found.

Chemical phenomena are divided into two groups, called inorganic and organic, comprising the simple and compound aspects of the subject, the elementary substances being in the first, and the chemistry of animals or vegetables, or organic substances, in the latter. In the inorganic section we become acquainted with the elements and their combinations so often seen as minerals in nature. Chemical preparations are artificially prepared. To consider these elements we must have certain appliances, and indeed a laboratory is needed. Heat, as we have already seen, plays a great part in developing substances, and

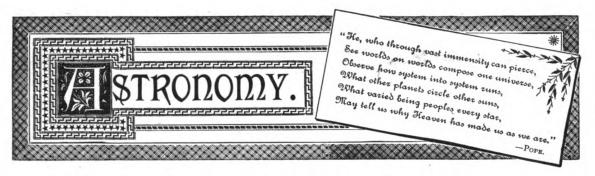
by means of heat we can do a great deal in the way of chemical decomposition. It expands, and thus diminishes cohesion; it counteracts the chemical attraction. Light and electricity also decompose chemical combinations.

The earth, and its surrounding envelope, the atmosphere, consist of a number of elements, which in myriad combinations give us everything we possess. The air we breathe, the water we drink, the fire that warms us, are all made up of certain elements or gases. Water is hydrogen and oxygen; air, oxygen and nitrogen. Fire is combustion evolving light and heat. Chemical union always evolves heat, and when such union proceeds very rapidly fire is the result.

But in all these combinations not a particle or atom of matter is ever lost. It may change or combine or be "given off," but the matter in some shape or way exists still. We may burn things, and rid ourselves, as we think, of them. We do rid ourselves of the compounds, but the elements remain somewhere. We only alter the condition. During combustion, as in a candle or a fire, the simple bodies assume gaseous or other forms, such as carbon, but they do not escape far. True, they pass beyond our ken, but nature is so nicely balanced that there is a place for everything, and everything is in its place, under certain conditions which never alter. We cannot destroy and we cannot create. We may prepare a combination, and science has even succeeded in producing a form like the diamond—a crystal of carbon which looks like that most beautiful of all crystals, but we cannot make a diamond after all. We can only separate the chemical compounds. We can turn diamonds into charcoal, it is true, but we cannot create "natural" products. We can take a particle of an element and hide it, or let it pass beyond our ken, and remain incapable of detection, but the particle is there all the time, and when we retrace our steps we shall find it as it was before.

This view of chemistry carries it as a science beyond the mere holiday amusement we frequently take it to be. It is a grand study—a study for a lifetime. The more we inquire, the more we shall find we have to learn. In this work it was only possible to give a brief introduction. There are numerous excellent treatises on chemistry, but, exhaustive as they are, they do not tell us all. Nature, however, is always willing, like a kind, good mother, to render up her secrets, if we inquire respectfully and lovingly.





The Wonders of the Heavens as Revealed by the Telescope.

A History of the Progress of Astronomical Science.



A STRONOMY is the science which treats of the heavenly bodies and the laws which govern them. The space in which the celestial orbs are set is infinite and known as the "firmament" or "heaven." We can see a few stars, com-

paratively speaking, but there are numbers whose light has never yet reached the earth. When we calmly reason upon the immeasurable distances, and the awful rapidity of motion, with the masses of matter thus in movement, we are constrained to acknowledge that all our boasted knowledge is as nothing in the wondrous dispensation of Him who "telleth the number of the stars and calleth them all by their names."

Astronomy is the most ancient of all sciences. The study of the stars is, without doubt, as old as man himself, and hence many of its discoveries date back of authentic records, amid the dim mysteries of tradition.

The Chinese possess an account of a conjunction of four planets and the moon, which must have occurred a century before the flood. They have also the first record of an eclipse of the sun, which took place about two hundred and twenty years after the deluge.

The Chaldean shepherds, watching their flocks by night under the open sky, could not fail to become familiar with many of the movements of the heavenly bodies. The Chaldeans invented the sun-dial, and also discovered the "Saros," or "Chal-

dean Period," which is the length of time in which the eclipses of the sun and moon repeat themselves in the same order.

Thales, who was noted for his electrical discoveries, and acquired much renown, established the first school of astronomy in Greece. He taught that the earth is round, and that the moon receives her light from the sun. He also introduced the division of the earth's surface into zones, and the theory of the obliquity of the ecliptic. He predicted an eclipse of the sun which is memorable in ancient history as having terminated a war between the Medes and the Lydians. These nations were engaged in a fierce battle, but the awe produced by the darkening of the sun

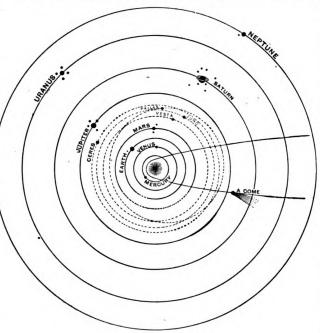


Fig. 1. The Solar System.

was so great that both sides threw down their arms and made peace.

Anaximander and Anaxagoras were pupils of Thales. Anaximander taught that the stars are suns, and that the planets are

inhabited. Anaxagoras maintained that there is but one God, that the sun is solid, and as large as the country of Greece, and attempted to explain eclipses and other celestial phenomena by natural causes. For his audacity and impiety, as his countrymen considered it, he and his family were doomed to perpetual banishment.

Pythagoras founded the second celebrated astronomical school at Crotona, at which were educated hundreds of enthusiastic pupils. He knew the causes of eclipses, and calculated them by means of the Saros. Pythagoras was most emphatically a dreamer. He conceived a system of the universe in many respects correct; yet he advanced no proof, and made few converts to his views, and they were soon well nigh forgotten. He held that the sun is the center of the solar system, and that the planets revolve about it in circular orbits; that the earth revolves daily on its axis, and yearly around the sun; that Venus is both morning and evening star; that the planets are inhabited - and he even attempted to calculate the size of some of the animals in the moon; that the planets are placed at intervals corresponding to the scale in music, and that they move in harmony, making the "music of the spheres," but that this celestial concert is heard only by the gods-the ears of man being too gross for such divine melody. Pythagoras believed the sun to be 44,000 miles from the earth, and 75 miles in diameter.

Eudoxus held that the heavenly bodies are set, like gems, in hollow, transparent crystal globes, so pure that they do not obstruct the view, and that they all revolve around the earth.

Hipparchus, who flourished in the second century B.C., has been called the "Newton of Antiquity." He was the most celebrated of the Greek astronomers; he calculated the length of the year within six minutes, discovered the precession of the equinoxes, and made the first catalogue of the stars — 1,081 in number.

Egypt, as well as Chaldea, was noted for its knowledge of the sciences long before they were cultivated in Greece. It was the practice of Grecian philosophers, before aspiring to the rank of teacher, to travel for years through these countries, and gather wisdom at its fountain-head. Pythagoras thus spent thirty years in traveling.

About two hundred years after Pythagoras the celebrated school of Alexandria was established. Here were concentrated in vast libraries and princely halls nearly all the wisdom and learning of the world; here flourished all the sciences and arts, under the patronage of generous kings.

The Ptolemaic System.

Ptolemy of Alexandria (A.D. 130-150) was the founder of a theory called the Ptolemaic system, based largely upon the materials gathered by previous astronomers, such as Hipparchus, already mentioned, and Eratosthenes, who computed the size of the earth by means even now considered the best—the measurement of an arc of the meridian. The advocates of the Ptolemaic theory assumed that every planet revolves in a circle, and that the earth is the fixed center around which the sun and the heavenly bodies move. They conceived that a bar, or something equivalent, is connected at one end with the earth; that at some

part of this bar the sun is attached; while between that and the earth, Venus is fastened, not to the bar directly, but to a sort of crank; and farther on, Mercury is hitched on in the same way. They did not fully understand the nature of these bars—whether they were real or only imaginary—but they did comprehend their action, as they thought; and so they supposed the bar revolved, carrying the sun and planets along in a large circle about the earth; while all the short cranks kept flying around, thus sweeping each planet through a smaller circle.

The movements of the planets were to the ancients extremely complex. Venus, for instance, was sometimes seen as "evening star" in the west; and then again as "morning star" in the east. Sometimes she seemed to be moving in the same direction as the sun, then, going apparently behind the sun, she appeared to pass on again in a course directly opposite. At one time she would recede from the sun more and more slowly and coyly, until she would appear to be entirely stationary; then she would retrace her steps, and seem to meet the sun. All these facts were attempted to be accounted for by an incongruous system of "cycles and epicycles."

The system of Ptolemy passed current for 1400 years, and during this time

Astrology

was ranked as one of the most important branches of knowledge. Star diviners were held in the greatest estimation, and the issue of any important undertaking, or the fortune of an individual, was foretold by means of horoscopes representing the position of the stars and planets. The system of the astrologers was very complicated, and contained regular rules to guide the interpretation, so intricate that years of study were required for their mastery. Venus foretold love; Mars, war; the Pleiades, storms at sea. Not only the ignorant were the dupes of this system, Lord Bacon believing in it most firmly.

The Copernican System.

The system as now accepted is called the Copernican system, after Nicholas Kopernik, or Copernicus, who, in 1543, breaking away from the theory of Ptolemy, revived that of Pythagoras. He saw the beautiful simplicity of considering the sun the grand center about which revolve the earth and all the planets. He noticed how constantly, when we are riding swiftly, we forget our motion, and think that objects really stationary are gliding by us in the contrary direction. He applied this thought to the movements of the heavenly bodies, and maintained that, instead of the starry hosts revolving about the earth once in twenty-four hours, the earth simply turns on its own axis; that this produces the apparent daily revolution of the sun and stars, while the yearly motion of the earth about the sun, transferred in the same manner to that body, would account for its various movements.

Tycho Brahe opposed the Copernican theory, but made many important investigations. Then came Kepler, who adopted the Copernican theory, and whose observations upon the planet Mars cleared away many complications. He laid down three laws, as follows: 1. Planets revolve in ellipses, with the sun at one focus. 2. A line connecting the center of the earth with the

center of the sun passes over equal spaces in equal times. 3. The squares of the times of revolution of the planets about the sun are proportional to the cubes of their mean distances from the sun. Kepler also remarked that gravity was a power existing between all bodies, and reasoned upon the tides being caused by the attraction of the moon for the waters. About this time, viz.: the beginning of the seventeenth century, the telescope was invented, and logarithms came into use. The telescope did not penetrate into Southern Europe till 1608–9.

Galileo, who had discovered the laws of the pendulum and of falling bodies, learned that a Dutch watchmaker had invented a contrivance for making distant objects appear near. With his profound knowledge of optics and philosophical instruments, he instantly caught the idea, and soon had a telescope completed that would magnify thirty times. With this instrument he examined the moon, discovered its mountains and valleys, and watched the dense shadows sweep over its plains. Near Jupiter he saw three bright stars, as he considered them, which were invisible to the naked eye. Shortly after, he noticed those stars had changed their relative positions. Being somewhat perplexed, he waited three days for a fair night in which to resume his observations. The fourth night was favorable, and he again found the three stars had shifted. After continued observations he discovered a fourth star, and finally found that they were all rapidly revolving around Jupiter, each in its elliptical orbit, with its own rate of motion, and all accompanying the planet in its journey around the sun. Here was a miniature Copernican system, hung up in the sky for all to see and examine for themselves. Galileo met with the most bitter opposition. A great many refused to look through the telescope, lest they might become victims of the philosopher's magic. Some prated of the wickedness of digging out valleys in the fair face of the moon; while others doggedly clung to the theory they had held from their youth up.

Then Newton promulgated his immortal discovery of the law of gravitation—that every particle of matter in the universe attracts every other particle of matter with a force directly proportional to its quantity of matter, and decreasing as the square of the distance increases—and the relations of the sun and planets became more evident.

Subsequent researches brought astronomy into prominence more and more. The spectroscope has, in the able hands of living astronomers, revealed to us elements existing in the vapors and composition of the sun and other heavenly bodies. Stars are now known to be suns, some bearing a great resemblance to our sun, others differing materially. The nebulæ have been analyzed, and found to be stars, or gas, burning in space-hydrogen and nitrogen being the chief constituents of this glowing matter. Instruments for astronomical observation have now been brought to a pitch of perfection scarcely ever dreamed of, and month by month discoveries are made and recorded, while calculations as to certain combinations can be made with almost miraculous accuracy. The transit of Venus, the approaches of comets, eclipses, and the movements of stars, are now known accurately and commented on long before the events can take place.

THE SOLAR SYSTEM.

Gravitation is the force which keeps the planets in their orbits. The sun attracts the planets, and they influence him in a minor degree. Likewise the moon and stars and our earth attract each other. But as the sun's mass is far greater than the masses of the planets he influences them more, and could absorb them all without inconvenience or disturbance from his center of gravity.

Every body will remain at rest unless force compels it to change its position, and it will then go on forever in a straight path, unless something stops it. But if this body be acted on simultaneously by two forces in different directions it will go in the direction of the greater force. Two equal forces will tend to give it an intermediate direction, and an equal opposing

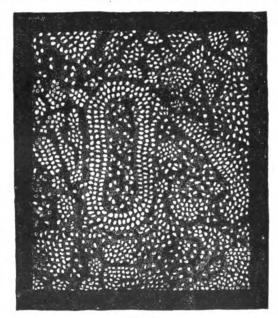


Fig. 2.

The Surface of the Sun as seen through a Powerful Telescope.

force will stop it. The last axiom but one—viz., the two equal forces in different, not opposing directions—gives us the key to the curving line of the planetary motions. Were it not for the attraction of the sun, the planets would fly off at a tangent; while, on the other hand, were not the impelling force as great as it is, they would fall into the sun. Thus they take an intermediate line, and circle round the center of the solar system—the Sun.

The solar system consists of: (1) The sun—the center; (2) the major planets—Vulcan (undetermined), Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune; (3) the asteroids, or minor planets, at present (January, 1885) 244 in number; (4) the satellites, or moons, which revolve around the different planets; (5) meteors and shooting stars; (6) comets.

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The stars called planets have certain motions, going from east to west, from west to east, and sometimes again appearing quite motionless. This change of place, appearing now at one side of the sun and now at another, has given them their title of "wanderers." The planets and their satellites, the asteroids, comets and meteors, all circle round the sun in more or less regular orbits. And there must be families of comets that have not yet appeared to us, and whele systems of meteors as yet unseen.

THE SUN.

When we consider the power and grandeur of the sun, we may well feel lost in the contemplation. He balances the planets and keeps them in their orbits. He gives us light and heat, and in darkness nothing will come to maturity. We obtain rain and dew owing to his evaporative power, and no action could go on upon the earth without him.

The sun is not solid so far as we can tell. It is apparently a mass of white-hot vapor, and is enabled to shine by reason of its own light, which the planets and stars cannot do, they shining only by the sun's reflected light. From this we might conclude that the sun is entirely gaseous, but, in the recent researches in spectrum analysis, the light of the sun has been examined by means of the spectroscope, and split up into its component colors, and scientists have discovered that a number of elements exist in the sun in a vaporous state. Hydrogen is there, with other gases unknown to us, and many metals, discovered by their spectra, which are the same under similar circumstances. The sun is supposed to be spherical in shape - not flattened at the poles, as our earth is — and to be composed of materials similar to those which constitute the earth, only that in the sun these materials are still in a heated condition. Thus we can argue, by analogy from the spectra of earthly elements, that as the sun and star light give us similar spectra, the heavenly bodies are composed of the same elements as our globe.

When the surface of the sun is examined with a good telescope, under favorable atmospheric conditions, it appears to be composed of minute grains of intense brilliancy and of irregular form, floating in a darker medium and arranged in groups and streaks, as shown in Fig. 2. With a rather low power the general effect of the surface is much like that of rough drawing-paper.

The sun's average distance from the earth is 91,500,000 miles.

The volume of the sun is 1,253,000 times that of the earth, but its density is only about one-fourth that of the earth. The attraction of gravitation at the sun must be more than that of the earth's surface twenty-seven times. A body dropped near the surface of the sun would fall 436 feet in the first second, and would then have attained a velocity of ten miles a minute.

The light of the sun is equal to 5,563 wax candles, held at a distance of one foot from the eye. It would require 800,000 full moons to produce a day as brilliant as one of cloudless sunshine.

The amount of heat we receive annually is sufficient to melt a layer of ice thirty-eight yards in thickness, extending over the whole earth.

The sun appears to be about half a degree in diameter, so that 360 disks like the sun, laid side by side, would make a half circle of the celestial sphere. It seems a little larger to us in winter than in summer, as we are 3,000,000 miles nearer it.

The sun makes the apparent circuit of the heavens in 365 d. 6 h. 9 m. 9.6 s.; the transit from one vernal equinox to the next being only 365 d. 5 h. 48 m. 48.6 s., owing to the precession of the equinoxes, explained elsewhere.

The Sun's Apparent Motion.

If we rise early in the morning we shall, as the reader will say, see the sun rise—that is, he appears to us to rise as the earth rotates. By the accompanying diagram (Fig. 3) we can

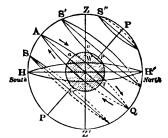


Fig. 3. The Sun's Apparent Motion.

understand how Sol makes his appearance, and how he comes up again. The earth rotates from west to east, and so the sun appears to move from east to west. If we look at the diagram we shall see that after rising at O the sun advances toward the meridian in an oblique arc to A, the highest or culminating point—midday. He then returns, descending to W; this path is the diurnal arc. At Q similarly, during his passage in the nocturnal arc, he reaches the lowest or inferior culmination. H H is the meridian.

On the 21st of March this path brings the sun on the "equinoctial" line. Day and night are then of equal duration, as the arcs are equal. So this is the vernal (or spring) equinox. Some weeks after the sun is at midday higher up at S', and so, the diurnal arc being longer, the day is longer. (Z is the zenith, Z' is the nadir, P P' is the celestial axis.) From that time he descends again toward the equinoctial to the autumnal equinox, and so on, the diurnal arc becoming smaller and smaller until the winter solstice is reached (S).

Now, the sun has a two-fold apparent motion — viz., a circular motion obliquely ascending from the horizon, which is explained by the rotation of the earth, and by our position, o, to the earth's axis, p p', and also by a rising and setting motion between the solstitial points, S and S', which causes the inequality of the days and nights. Independently of the daily motion of the sun, we observe that at the summer solstice, on the 21st of June, at midday, the sun is at S', and one half year later, viz., on the 21st of December, at midnight, the sun is at s, from which he arrives again in the space of half a year at S'; so we are able to represent this annual motion of the sun by a

circle, the diameter of which is the line S' s. This circle is called the *Ecliptic*.

The plane of the ecliptic, S' s, cuts the plane of the equinoctial, A Q, at an angle of $23\frac{1}{2}$ °, and the axis of the ecliptic, S''' s'', makes the same angle with the axis of the heavens, P P. The two parallel circles S' s' and S s include a zone extend-

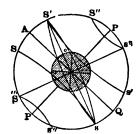


Fig. 4. The Ecliptic.

ing to both sides of the equinoctial, and beyond which the sun never passes. These circles are called the *tropics*, from *trepo*, *I turn*, because the sun turns back at these points, and again approaches the equinoctial. The parallel circles S'' s'' and S''' described by the poles of the ecliptic, S''' s'', about the celestial poles, P P, are called the *arctic* and *antarctic circles*.

Whenever the sun crosses the equinoctial, there is the equinox; but the points of intersection are not invariably the same every year. There is a gradual westerly movement, so it is a little behind its former crossing-place every year. This is the "precession of the equinoxes," because the time of the equinoxes is hastened, but it is really a retrograde movement. Hipparchus discovered this motion, which amounts to about fifty seconds in a year. So the whole revolution will be completed in about 28,000 years.

Sun-Spots.

Sun-spots, as they are generally called, are hollows in the sun's vapory substance, and are of enormous extent; and there are brilliant places near those spots, which are termed facula. These spots have been observed to be changing continuously, and passing from east to west across the sun, and then to come again at the east, to go over the same space again. Now this fact has proved that the sun turns around upon his axis, and, although he does not move, as we imagine, from east to west,

round the earth, the orb does move — in fact, the sun has three motions: one on his axis; secondly, a motion about the center of gravity of the solar system, and a progressive movement toward the constellation Hercules.

Solar Prominences.

During solar eclipses the sun exhibits what are termed "red prominences,"—the luminous vapors existing around it. When the orb is eclipsed, bright-colored vapors can be seen shooting out from underneath the dark shadow. These red prominences were first observed in 1842, and in 1851 it was proved that they appertained to the sun, for the moon hid them as the eclipse began. "The luminosity of these prominences is intense," says Secci, "and they often rise to a height of 80,000 miles, and oceasionally to more than twice that; then, bending back, they fall again upon the sun like the jets of fountains. Then they spread into figures resembling gigantic trees, more or less rich in branches."

THE PLANETS.

The ancients knew five of the planets and named them Mercury, Venus, Mars, Jupiter and Saturn. In later years a great number were discovered, but we must confine ourselves to the consideration of the principal ones, eight in number, including our own Earth, Uranus and Neptune completing the list. Of these, Venus and Mercury are the interior (or inferior) planets, moving between us and the sun; the others are called exterior (or superior), and pass quite round the heavens. All the planets are spheroids, and they vary greatly in size. Their comparative distance and magnitude are thus interestingly illustrated by Sir John Herschel:

"Choose any well-leveled field, and on it place a globe two feet in diameter to represent the sun. Mercury will be represented by a grain of mustard seed on the circumference of a circle 164 feet in diameter for its orbit; Venus, a pea, on a circle 284 feet in diameter; the Earth, also a pea on a circle 430 feet; Mars, a rather large pin's head on a circle of 654 feet; Juno, Ceres, Vesta, and Pallas, grains of sand in orbits of 1,000 to 1,200 feet; Jupiter, a moderate-sized orange on a circle nearly half a mile across; Saturn, a small orange on a circle four-fifths of a mile; and Uranus, a full-sized cherry, or small plum, upon the circumference of a circle more than a mile and a half in diameter."

Comparative Table showing the Diameter, Distance from the Sun, Volume, Density, etc., of the Planets of the Solar System.*

	Diameter in Miles.	Mean distance from the sun, in miles, (about).	Sidereal period of revolution. (Length of year).		Time of rotation on their axes.		Average velocity. Miles per second.	Volume, earth being 1.	Density, earth being 1.	Weight, earth being 1.	Date of Discovery.	
The Sun Mercury Venus Earth Mars Jupiter Saturn Uranus Neptune	3,089 7,896 7,926 4,070 92,164 75,070 36,216	35,000,000 66,000,000 91,000,000 139,000,000 476,000,000 872,000,000 1,753,000,000 2,746,000,000	87 224 365 686 4.332 10,759 30,686 60,126	23 16 6 23 14 5	ш. 16 50 9 31 2 16 21	d. 24 23 23 24 9 10	h. 51/2 211/3 56 371/3 551/2 15	30 22 18 15 813	1,415,225.00 0.05 0.99 1.00 0.13 1,491.00 772.00 86.50 76.60	0.25 1.22 0.90 1.00 0.97 0.22 0.13 0.16	354,936.00 0,07 0,91 1,00 0,13 338.71 101.36 14.25 18.98	Antiquity. Antiquity. Antiquity. Antiquity. Antiquity. Antiquity. Herschel, 1781. Leverrier and Galte, 1866.

^{*}The planet Vulcan, discovered in 1859, and having its orbit next to the sun, is still undetermined. Prof. Tice estimates that its diameter is as large as that of Uranus.

The planets revolve upon their axes in the same manner as the earth. This we know by telescopic observation to be the case with many planets, and by analogy the rule may be extended to all. Conformably to the principles of gravitation, their velocity is greatest at those parts of their orbit which are nearest the sun, and least at the parts which are most distant from it; in other words, they move quickest in perihelion, and slowest in aphelion.

The question whether the planets are inhabited cannot be satisfactorily answered. There are many who think that the only object God can possibly have in making any world is to form an abode-for man. Our own earth was evidently fitted up, although perhaps not created, for this express purpose. When we turn to the planets we do not know but God has other races of intelligent beings who inhabit them, or even entirely different ends to attain. Of this, however, we are fully assured, that, if inhabited, the conditions on which life is supported vary much from those familiar to us.

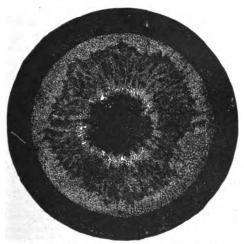


Fig. 5. General Appearance of a Sun-Spot.

Satellites, or "planetary moons," are plainly perceived attending upon the great planets. One we are all familiar with—the moon, which lends a beauty to our nights which no other light that we can command can ever do.

Mars possesses two moons and Jupiter four; Uranus rejoices in the latter number; Neptune has only one; no less than eight satellites wait upon Saturn. No doubt there are many more of these moons to be found, and every year will doubtless bring us further knowledge respecting them. Mars' moons were discovered only in 1877, although known to exist. Jupiter's moons are supposed to be as large as our own moon; Neptune and Uranus can boast of equally-sized attendants.

MERCURY.

The distance of Mercury from the sun is less than half that of our earth, and so it receives much more heat and light than we do. The sun to the Mercurians, if there be any inhabitants upon the planet, must appear about seven times larger than he does to us. When the sky is very clear we may sometimes see Mercury, just after the setting of the sun, as a bright, sparkling star near the western horizon. Its elevation increases evening by evening, but never exceeds 30°. And if we watch it closely, we shall find that it again approaches the sun and becomes lost in his rays. Some days afterward, just before sunrise, we can see the same star in the east, rising higher each morning, until

its greatest elevation equals that which it before attained in the west. Mercury's orbit is the most eccentric of any of the eight principal planets, so that, although when in perihelion it approaches to within 28,000,000 miles, in aphelion it speeds away 15,000,000 miles farther, or to the distance of 43,-

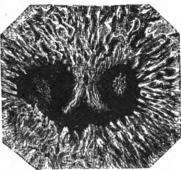


Fig. 6. A Sun-Spot as seen by Secchi.

000,000 miles. Being so near the sun, its motion in its orbit is correspondingly rapid—thirty miles per second.

VENUS.

Venus, the nearest planet to the earth, is somewhat smaller than the latter. This planet is both a morning and evening star, and is very brilliant—so much so, that close observation with the telescope is impossible. When at her nearest point she is invisible, as she passes between us and the sun, and of course when fully illuminated she is directly beyond the sun,

and inclosed in his rays. But under other circumstances she is distinctly visible as a crescent in the evening, and nearly full as a morning star. Venus has long been celebrated as the morning and evening star, as "Lucifer" and "Hesperus."

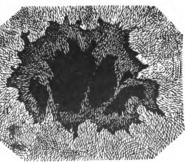


Fig. 7. A Sun-Spot as seen by Nasmith.

That Venus possesses an atmosphere denser than our own can scarcely be doubted. The observations made during successive transits seem to have established the fact that aqueous vapor exists around, and water in, Venus. No satellite can be found, although the ancients reported such an attendant. A transit of Venus, like one of Mercury, is simply a passing of the planet across the illuminated disc of the sun. The transits afford means to ascertain the volume, distance, etc., of the sun. The last occurred in 1882, and there will not be another for more

than a hundred years. The seasons in Venus must be very different from ours. As her inclination is greater than that of our earth, and as the sun is so much nearer to her than to us, her tropical and polar regions are close, and a vertical sun is scarcely enjoyed by two places for three successive days, and she may have two winters and summers, two springs and autumns.



Fig. 8. A Solar Prominence.

The evidence of an atmosphere, as well as of mountains, rests very much upon the peculiar appearance attending her crescent shape. The luminous part does not end abruptly; on the contrary its light diminishes gradually. This diminution may be entirely explained by the twilight on the planet. The existence of an atmosphere which diffuses the rays of light into regions where the sun has already set, has hence been inferred. Thus, on Venus, the evenings, like ours, are lighted by twilight, and the mornings by dawn. The edge of the illuminated portion of the planet is uneven and irregular, and this appearance is doubtless the effect of shadows cast by mountains.

OUR EARTH AND HER SATELLITE.

It seems rather strange to class our earth, which is dark and opaque, and which appears to us so vast, among the bright heavenly bodies. Nevertheless it is one of the smallest of the principal planets of the solar system, and although we see in it no motion, while the orbs about us seem constantly changing their position, science has demonstrated that it revolves around the sun, in an orbit of nearly 600,000,000 miles, at the tremendous rate of eighteen miles per second, or 65,000 miles an hour. To other worlds our earth appears as a star does to us. In studying astronomy we must consider that it is a planet shining brightly in the heavens, held in its course by the invisible power of gravitation, and that in reality it is small and insignificant beside some of the mighty globes that so gently shine upon us from distances almost inconceivable; that our earth, in fact, is only one atom in a universe of worlds, all firm and solid, and all, perhaps, equally well fitted to be the abode of life.

Science teaches us that the earth was doubtless once a glowing star, and under the head of *Physical Geography* we can see that the Scriptures confirm this doctrine. The crust upon which we thrive is only the cinders and ashes of a fearful conflagration, and the air we breathe is only the gas left over when the fuel was consumed.

The earth has two motions—one from east to west, in its course round the sun, and one on its own axis. If we send a ball rolling we perceive that it turns round as it proceeds. So the earth turns on its axis, the extremities of which are called the poles. The horizon appears to us stationary, and so the stars we see at night seem to move. Those on the west, which are passed over and hidden, seem to have sunk or set, and those on the east seem to have moved above or risen. The sun seems to move by day, and the stars by night, but this is a mere optical delusion—a delusion in which the untaught mind is confirmed by the relative fixity of everything on our globe, the apparent rest of everything around.

The earth's rotation, according to sidereal time, is less than solar time, and we have 365 solar days and 366 sidereal days. A person going round the world would gain or lose a day, as he traveled east or west, according to his reckoning as compared with the reckoning of friends at home. We can best ascertain the earth's motion by watching the stars rise and set. The earth proceeds at its tremendous pace round the sun in an ellipse or oval track, 600,000,000 miles in length, from which it never moves, year by year, in any appreciable degree. Now what prevents this earth of ours from rushing off by itself into

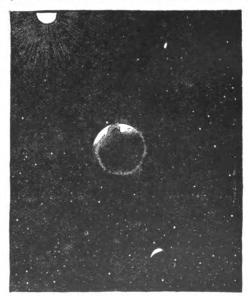


Fig. 9. The Earth in Space.

space? The reason is because the sun holds it back. The force of the sun's gravitation is so enormously great that it suffices to retain our globe and all the planets in their various orbits, and to counteract the force which launches them through space. If the earth were suddenly to increase her velocity or the sun to contract his mass, we should be flung into infinite

ASTRONOMY. 27

space, and in a short time would be frozen up completely. Our present diurnal course would probably proceed, but all life would cease as we whirled with distant planets through infinity. If, on the other hand, the earth were to stop suddenly, an amount of heat would be engendered sufficient to raise the temperature of a globe of lead the same size as our globe 384,000° of the Centigrade thermometer, and, as Prof. Tyndall says, the greater part, if not the whole, of our planet would be reduced to vapor. But against such a catastrophe we are assured by the immutability of God's laws. The variation in the earth's revolution has not exceeded the hundredth part of a second in 2,000 years.

The Seasons.

In the diagram (Fig. 10) we shall at once find the explanation of the constantly recurring seasons, and the amount of

Minter
Solution
2 December

Supplemental points
2 September

Supplemental points
3 September

Supplemental points
4 September

Supplemental points
5 September

Fig. 10. The Seasons.

our globe which is illuminated by the sun at various times. It will be easily understood that the poles have six months day and six months night. When the earth is at an equinox, one-half of the surface is illuminated and the other half in shade; therefore the days and nights are equal. But when the north pole turns more and more toward the sun, the south pole is turning away from it in the same ratio,—the days and nights respectively are getting longer and longer, and at the north and south poles day and night are continuous, for the small spaces round the poles are, drang a certain period, wholly in sunshine and shade respectively.

When the earth is in Libra, and also when in Aries,* the rays

strike vertically at the equator, and more and more obliquely in the northern and southern hemispheres, as the distance from the equator increases, until at the poles they strike almost horizontally. This variation in the direction of the rays produces a corresponding variation in the intensity of the sun's heat and light at different places, and accounts for the difference between the torrid and polar regions. As the earth changes its position, the angle at which the rays strike any portion is varied. For instance, take the earth as it enters Capricornus, and the sun in Cancer. He is now overhead 23½° north of the equator. His rays strike less obliquely in the northern hemisphere than when the earth was in Libra. Let six months elapse: The earth is now in Cancer and the sun in Capricornus; and he is overhead 23½° south of the equator. His rays strike less obliquely in the southern hemisphere than before, but in the northern hem

isphere more obliquely. These six months have changed the direction of the sun's rays on every part of the earth's surface. This accounts for the difference in temperature between summer and winter.

At the equinoxes onehalf of each hemisphere is illuminated; hence the name equinox (aquus, equal, and nox, night). At these points of the orbit the days and nights are equal over the entire earth, each being twelve hours in length.

When the earth is at the summer solstice, about the 21st of June, the sun is overhead 23½° north of the equator, and if its vertical rays could leave a golden line on the surface of the earth as it revolves, they would mark the Tropic

of Cancer. The sun is at its furthest northern declination, ascends the highest it is ever seen above our horizon, and rises and sets 23½° north of the east and west points. It seems now to stand still in its northern and southern course; and hence the name solstice (sol, the sun, sto, to stand). The days in the north temperate zone are longer than the nights. It is our summer, and the 21st of June is the longest day of the year. In the south temperate zone it is winter, and the shortest day of the year. The circle that separates day from night extends 23½° beyond the north pole; and if the sun's rays could in like manner leave a golden line on that day, they would trace on the earth the Arctic Circle. It is the noon of the long, six-months polar day. The reverse is true at the Antarctic Circle, and it is there the midnight of the long, six-months polar night.

^{*}When we say that the earth is in Libra, we mean that a spectator placed at the sun would see the earth in that part of the heavens which is occupied by the sign of Libra. See Zodiac (Dictionary of Astronomical Terms).

The earth crosses the aphelion point the 1st of July, when it is at its furthest distance from the sun, which is then said to be in apogee. The sun, each day rising and setting a trifle further toward the south, passes through a lower circuit in the heavens. We reach the autumnal equinox the 22d of September. The sun being now on the equinoctial, if its vertical rays could leave a line of golden light, they would mark on the earth the circle of the equator. It is autumn in the north temperate zone, and spring in the south temperate zone. The days and nights are

equal over the whole earth, the sun rising at 6 A.M., and setting at 6 P.M., exactly in the east and west where the equinoctial intersects the horizon.

The sun, after passing the equinoctial - "crossing the line," as it is called - sinks lower toward the southern horizon each day. We reach the winter solstice the 21st of December. The sun is now directly overhead 23 1/2° south of the equator; and if its rays could leave a line of golden light, they would mark on the earth's surface the Tropic of Capricorn. It is at its furthest southern declination, and rises and sets 231/20 south of the east and west points. It is our winter, and the 21st of December is the shortest day of the year. In the south temperate zone it is summer and the longest day of the year. The circle that separates day from night extends 231/2° beyond the south pole; and if the sun's rays in like manner could leave a line of golden light, they would mark the Antarctic Circle. It is there the noon of the long six-months polar day. At the Arctic Circle the reverse is true; the rays fall 231/2° short of

the north pole, and it is there the midnight of the long sixmonths polar night. Here, again, the sun appears to us to stand still a day or two before retracing its course, and it is therefore called the winter solstice.

The earth reaches its perihelion about the 31st of December. It is then nearest the sun, which is, therefore, said to be in *perigee*. The sun rises and sets each day further and further north, and climbs up higher in the heavens at midday. Our days

gradually increase in length, and our nights shorten in the same proportion. On the 21st of March the sun reaches the equinoctial, at the vernal equinox. He is overhead at the equator, and the days and nights are again equal. It is our spring, but in the south temperate zone it is autumn.

We are nearer the sun by 3,000,000 miles in winter than in summer. The obliqueness with which the rays strike the north temperate zone at that time prevents our receiving any special benefit from this favorable position of the earth. We notice

that we do not have our greatest heat at the time of the summer solstice nor our greatest cold at the time of the winter solstice. After the 21st of June, the earth, already warmed by the genial spring days, continues to receive more heat from the sun by day than it radiates by night; thus its temperature still increases. On the other hand, after the 21st of December, the earth continues to become colder, because it loses more heat during the night than it receives during the day.

As the sun is not in the center of the earth's orbit, but at one of its *foci*, that portion of the orbit which the earth passes through in going from the vernal to the autumnal equinox comprises more than one-half the entire ecliptic. On this account the summer is longer than the winter.

The velocity of the earth varies in different portions of its orbit. When passing from the vernal equinox to aphelion, the attraction of the sun tends to check its speed; from that point to the autumnal equinox, the attraction is partly in the direction of its motion, and so increases its velocity.



Fig. 11. The Moon by Earth-light.

If the axis of the earth were perpendicular to the ecliptic, the sun would always appear to move through the equinoctial. He would rise and set every day at the same points on the horizon, and pass through the same circle in the heavens, while the days and nights would be equal the year round. There would be near the equator a fierce torrid heat, while north and south the climate would melt away into temperate spring, and, lastly, into the rigors of a perpetual winter.

If the equator were perpendicular to the ecliptic, odd result would follow. To a spectator at the equator, as the earth leaves the vernal equinox, the sun would each day pass through



Fig. 12. Telescopic View of the Full Moon.

a smaller circle, until at the summer solstice he would reach the north pole, when he would halt for a time and then slowly return in an inverse manner. In our own latitude, the sun would make his diurnal revolutions in the way we have just described, his rays shining past the north pole further and further, until we were included in the region of perpetual day, when he would seem to wind in a spiral course up to the north pole, and then return in a descending curve to the equator.

The sun and moon appear flattened when near the horizon, because the rays from the lower edge pass through a denser layer of the atmosphere, and are, therefore, refracted about 4' more than those from the upper edge. The effect of this is to make the vertical diameter appear about 4' less than the horizontal, and so distort the figure of the disk into an oval shape.

The dim and hazy appearance of the heavenly bodies when near the horizon is caused not only by the rays of light having to pass through a larger space in the atmosphere, but also by their traversing the lower and denser part. The intensity of the solar light is so greatly diminished by passing through the lower strata, that we are enabled to look upon the sun at that time without being dazzled by his brilliant beams.

The glow of light after sunset, and before sunrise, which we term twilight, is caused by the refraction and reflection of the sun's rays by the atmosphere.

The diffused light of day is produced in the same manner as that of twilight. The atmosphere reflects and scatters the sunlight in every direction. Were it not for this, no object would be visible to us out of direct sunshine; every shadow of a passing cloud would be pitchy darkness; the stars would be visible all day; no window would admit light except as the sun shone directly through it, and a man would require a lantern to go round his house at noon.

The blue light reflected to our eyes from the atmosphere above us, or more probably from the vapor in the air, produces the optical delusion we call the sky. Were it not for this, every time we cast our eyes upward we should feel like one gazing over a dizzy precipice; while now the crystal dome of blue smiles down upon us so lovingly and beautifully that we call it heaven.

THE MOON.

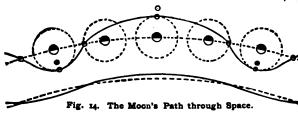
"Fancy," says Lockyer, "a world without ice, cloud, rain, snow; without rivers or streams, and therefore without vegetation to support animal life;—a world without twilight or any gradations between the fiercest sunshine and the blackest night;—a world, also, without sound, for, as sound is carried by the air, the highest mountain on the airless moon might be riven by an earthquake inaudibly." If it were possible to reach the moon, as Jules Verne's travelers did, we should find a very irregular and corrugated



Fig. 13. A Map of the Moon.

surface — plains and mountains without water. There being no atmosphere, we should be able to see the stars in the day-time. The appearance of our earth from the moon, and the beauty of the stars in the unclouded and waterless space around the satellite, must be very grand, as depicted in a measure, in the illustration (Fig. 11).

When we look steadily at the full moon through a telescope we perceive upon its surface dark and light tracts, called "seas," though they are dried up now. Thus, we hear of the "Sea of



Serenity," the "Sea of Storms" and the "Sea of Tranquility." The hill ranges extend for hundreds of miles, and the elevation reaches 30,000 feet, and even more. The so-called craters do not resemble volcanoes when viewed closely, but appear like basins or valleys surrounded by lofty hills. One great plain, called Copernicus, is more than fifty miles across.

I'he moon moves around us in 27d. 7h. 43m. 11.461s. Its diameter is about 2,160 miles, and it is much less dense than our earth, and so the force of gravity is less there than here. Its mean distance from us is 238,833 miles. The moon goes through certain changes or phases every twenty-nine days or so; and while rotating on its own axis our satellite goes round the earth, so that we only see one side of the moon, inasmuch as the two motions occupy almost exactly the same length of time. So we generally see the same space of the moon, though at times there is a slight variation. This movement or swaying of the central point is called the moon's "libration," and is an optical effect, due to the inequalities in the motion of the moon in its orbit, and to the inclination of its equator and orbit to the ecliptic.

The Phases of the Moon.

The moon, as we have seen, revolves around the earth in the same time as she turns upon her own axis, and always presents one side to us when she appears. Any one can ascertain this if he will put a candle upon a round table, and walk round it facing the candle. The experimentalist will find that he will turn upon his own axis as well as turn around the table. Thus we shall see how the moon changes.

The time intervening between one "new" moon and another is 29d. 12h. 44m. 2s., and is termed a synodic revolution. This is longer than the sidereal revolution, because the earth is also moving in the same direction, and the moon has to make up the time the earth has got on in front, as it were. So the moon travels nearly thirteen times round the earth while the latter is going round the sun.

The revolutions of the moon have been a measurement of time for ages, and her varying appearances during lunation are always observed with interest. The illustration (Fig. 15) will

assist us materially. The sun's rays fall in a parallel direction upon the earth and moon, and let us suppose that S is the sun in the diagram and T the earth; c at the various points is the moon, the capital letters, A, B, C, etc., indicating the planet as she appears from the sun, and the small letters showing how she appears to us from the earth. Let us suppose that the sun, earth and moon are in conjunction—that is, in a direct line. The phases C and G are the moon's "quadratures." At A we see the sun shining on the moon, but we only have the

dark side. It is then "new moon." But by degrees, as she goes round in her orbit, we perceive a small crescent-shaped portion, lighted up by the sun at B and b. At c' we have the first quarter or half-moon, and so on to the last quarter.

The moon revolves round the earth in a changeable elliptical orbit, intersecting the ecliptic at certain points called nodes. When the moon is nearest to the earth she is said to be in perigee; when farthest from us she is in apogee. The line uniting these points is the line of apsides, the difference in distance being about 4,000 miles.

Eclipses.

The moon passes the sun periodically, and so, if she moved in the plane of the ecliptic, there would be eclipses of the sun

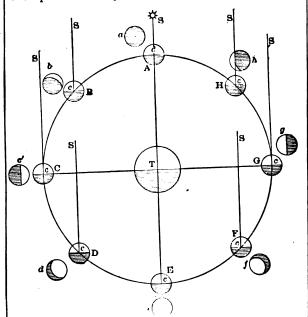


Fig. 15. The Phases of the Moon.

and moon twice a month; but, as the orbit is inclined a little, she escapes by moving north or south.

There are eclipses of the sun and of the moon. The former occur at the time of new moon, and the latter at full moon; and this will be at once understood when we remember that the sun is eclipsed by the moon passing between us and the

sun; and the moon is eclipsed because the shadow of the earth falls upon her when she is opposite the sun, and therefore "full."

There are total, partial, and annular eclipses. The last of these terms is derived from "annulus," a ring; for a ring of light is left around the dark portion eclipsed, and is only seen in solar eclipses. In one sense the eclipse of the sun is really an

eclipse of the earth, because it is caused by the shadow of the moon falling upon the

Various singular appearances always attend a total eclipse. Around the sun is seen a beautiful corona, or halo of light, like that which painters give to the head of the Virgin Mary. Flames of a blood-red color play round the disk of the moon; and, when only a mere crescent of the sun is visible, it seems to resolveitself into bright spots, interspersed with dark spaces, having the appearance of a string of bright beads.

The Tides.

The ebb and flow of tidal waters depend upon the moon to a great extent. Twice every day we have the tides, twelve hours apart, and the

flow and ebb are merely examples of the attraction of gravitation which is exercised on all bodies, whether liquid or solid. The tides may be compared to a great wave, which, raised by the moon's attraction, follows her in her course round the earth. The sun also aids in this effect, but as the moon is so much nearer the earth her influence is far greater. The tides are

highest at the equator and lowest at the poles, because the tropics are more exposed to the lunar attraction.

MARS

Appears to the naked eye as a bright red star, rarely scintillating, and shining with a steady light, which distinguishes it from the fixed stars. Its ruddy appearance has led to its being celebrated among all nations.

The Jews gave it the appellation of "blazing," and it bore in other languages a similar name. The orbit of Mars is exterior to the earth's, as is proved by his never appearing "horned," nor ever passing across the sun's disc. Therefore, no transits of Mars can take place as transits of Venus and Mercury. When

in "opposition," or on the opposite side of us from the sun, Mars is at his brightest. This happened in September, 1877. He will come close again to us in 1892. Of all the planets Mars has the most eccentric orbit. He curls about, so to speak, in loops and curves, in a very irregular manner, and therefore his distance from the earth varies considerably.

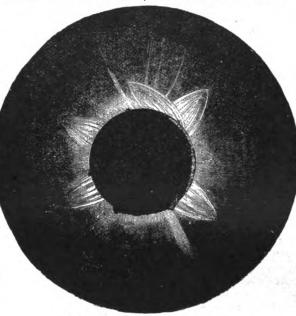


Fig. 15. The Corona as seen in 1857.

Mars is most like the earth of all the planets, and its inhabitants-if, indeed, it is now inhabited-must have a beautiful view of us when the weather is fine, for we are so much larger. When examined with a good telescope, the seas and continents of Mars can be distinctly perceived. At the poles there appears to be a white or snowy region at varying periods, which would lead us to the conclusion that the atmospheric changes and the seasons are similar to our own; and as the inclination of the planet is nearly the same as the earth, this supposition may be accepted as a fact.

The seasons of Mars are not equal, in consequence of his wandering propensities, and winter is warmer up

there than our winter, while summer is cooler than our summer. That there are clouds and an aqueous atmosphere surrounding the planet we learn from analysis and spectroscopic observation. Respecting the question of habitation, Richard Proctor says: "I fear my own conclusion about Mars is that his present condition is very desolate. I look on the ruddiness

of tint as one of the signs that the planet of war has long since passed its prime. There are lands and seas in Mars, the vapor of water is present in his air, clouds form, rains and snows fall upon his surface, and doubtless brooks and rivers irrigate his soil, and carry down the moisture collected on his wide continents to the seas whence the clouds had originally been formed. But I do not

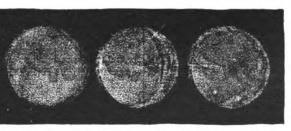


Fig. 17. The Rotation of Mars, as shown by the Movement of the Spots on its Disc.

think there is much vegetation on Mars, or that many living creatures of the highertypes of Martian life as it once existed still remain. All that is known about the planet tends to show that the time when it attained that stage of planetary existence through which our earth is now passing must be set millions of years,

perhaps hundreds of millions of years ago. He has not yet, indeed, reached that airless and waterless condition, that extremity of internal cold, or in fact that utter unfitness to support any kind of life, which would seem to prevail in the moon. The planet of war in some respects resembles a desolate battlefield, and I fancy that there is not a single region of the earth now inhabited by man which is not infinitely more comfortable as an abode of life than the most favored regions of Mars at the present time would be for creatures like ourselves."

Mars is attended by two satellites, or moons, discovered in 1877—both being very small, their diameter not exceeding six miles, although late astronomers have reasoned that they must be three times as large.

JUPITER, THE GIANT PLANET,

Is thirteen hundred times larger than our earth. His inclination is very small, and he therefore enjoys very small changes of seasons. He has four satellites. Jupiter himself was well known to the ancients, but his moons were discovered by

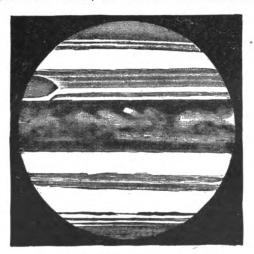


Fig. 18. Jupiter as shown by the Telescope.

Galileo. These moons were found to revolve around Jupiter in times varying from nearly two days to nearly sixteen days, according as they were at a less or greater distance from him. They were also found to have their times of eclipses and transits. They act with respect to Jupiter very much as the inner planets act with respect to the sun, for observation showed Galileo that the satellites sometimes appeared on one side of the planet, and at other times on the opposite side.

Jupiter is the largest of the planets, and only Venus is brighter. He revolves at a distance of 476,000,000 of miles from the sun, and his year is equal to nearly twelve of ours, while his day is scarcely ten hours long, showing a rapidity more than twenty times the rate of our earth. Jupiter, therefore, must have a very much greater diameter than the earth.

There is much less sunlight and heat found on Jupiter than upon earth, because he is so much farther from the sun than we are. There is but little difference and nights, which are each of abo poles the sun is visible for nearly for the same length of time.

Summer reigns near t enjoy perpetual spring.

that S is the sun various points i, indicating the balletters show-

When Jupiter is examined with the teles ... 1irect that he is crossed by belts of vapor; and when we results of the spectrum analysis of the planet, we m assume that Jupiter is in a very heated state, and that we cannot really perceive the actual body of the planet. There is an immense quantity of water thus surrounding Jupiter, and he seems to be still in the condition in which our earth was before geology grasps its state, and long ere vegetation or life appeared. The waters have yet to be "gathered together unto one place," and the dry land has yet to appear. Under these conditions we can safely assume that there are no inhabitants on the "giant planet." The belts or zones of Jupiter vary in hue, and the continual changes which are taking place in this cloud region tend to show that disturbances of great magnitude and importance are occurring.

It is useless to speculate upon what will happen in Jupiter when the disc is eventually cooled. The planet, we know, has not nearly reached maturity; the earth is in the full prime of its life, and the moon is dead and deserted. What the millions of years which must elapse before Jupiter has cooled may bring forth we need not try to find out. The earth will then, in all probability, be as dreary as the moon is now, and we shall have returned to dust.

The velocity of light was discovered by an attentive examination of the eclipses of Jupiter's moons, by Romer, a Danish astronomer, in 1617, who was led to discover the progressive motion of light. Before him, it had been considered instantaneous. He noticed that the observed times of the eclipses were sometimes earlier and sometimes later than the calculated times, according as Jupiter was nearest or farthest from the earth. His investigations convinced him that it requires about 16½ minutes for light to traverse the orbit of the earth. Romer's conclusion has since been verified by the phenomena of aberration of light.

SATURN

Is an immense globe, surrounded by a beautiful bright ring, or, rather, series of rings, and attended by eight moons. He appears to possess much the same constitution as Jupiter, but is enveloped in an even denser atmosphere. He revolves on an inclined axis, and has seasonal alterations of unequal length. The rings of Saturn are apparently broad, and flat, and thin, resembling roughly the horizon of a globe, and are supposed to be a close agglomeration of stars, or satellites, revolving around the planet, and encircling him in a belt. The two outermost rings are very bright, the inner ring being darker, and partially transparent, for the ball of Saturn can be perceived through it. The rings are not always so plainly seen as in the illustration (Fig. 19). Sometimes they appear as a mere line of light on each side of the planet. This occurs at the time of the equinox. By degrees, however, as they become

ASTRONOMY.

33

sun; a' the' falls upon her when c

There are total, these terms is deriv light is left arous in solar eclips der. The inner ring may be formed are of something more solid, as the planet, and it casts turn possesses eight moons, the plane of the rings

eclipse of constance, shines with a feeble, it is cause, sale yellow light, which distinguishes it from the there cans. Its orbit is so vast that its movement among the constellations may be easily traced through one's lifetime. It requires two and a half years to pass through a single sign of the zodiac; hence, when once known, it may be easily found again.

As the earth and Saturn occupy different portions of their orbits, the distances between them at different times may vary 200,000,000 miles.

The light and heat of the sun at Saturn are only $_{1}\frac{1}{00}$ that which we receive. The axis of the planet is inclined from a perpendicular to the plane of its orbit about 31° . The seasons, therefore, are similar to those on the earth, but on a larger scale.

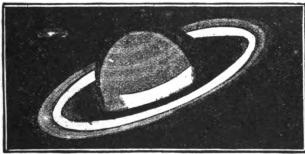


Fig. 19. Saturn and his Rings.

The sun climbs in summer about 8° higher above the horizon, and sinks correspondingly lower in winter. The tropics are 16° further apart, and the Arctic and Antarctic circles 8° further from the poles. Each of Saturn's seasons lasts more than seven of our years. There is about fifteen years' interval between the autumn and spring equinoxes, and between the summer and winter solstices. For fifteen years the sun shines on the north pole, and a night of the same length envelopes the south pole.

URANUS.

Uranus was discovered by Herschel, in 1781, and has been called after its discoverer, and sometimes the "Georgium Sidus." It revolves at an enormous distance from the sun—viz.: 1,753,-000,000 of miles. It takes about eighty-four of our years (30,686 days) to go round the sun, and possesses four moons. It is very much larger than the earth—about four times the diameter, and forty times its volume. We can only speculate concerning its physical constitution, which is assumed to be similar to that of Jupiter, while the changes of temperature and seasons must vary immensely. Uranus has four moons, called Ariel, Umbriel, Titania and Oberon. The outer pair can be seen without much difficulty.

NEPTUNE

Is the far-off sentinel at the very outposts of the solar system. The existence of this planet was determined by calculation before it had been seen at all. Uranus was observed to be disturbed in his orbit, moving sometimes faster than at others; and even before Uranus had been discovered Saturn and Jupiter had been seen to be affected by some body in the system. Leverrier determined to ascertain the cause of this, and came to the conclusion that some other planet was influencing Uranus. The Newtonian theory here received a most convincing proof. While Leverrier was calculating, Mr. Adams, of Cambridge, leaped to the same conclusion, and wrote the result of his calculations to Professor Airy, and the planet was seen, but not reported upon. Meantime Leverrier published his calculations, and the observers at Berlin detected the new planet in September, 1846.

Very little can be said concerning Neptune, as its distance is too great for observation. It has one moon, which moves round the planet in 5 d. 21 h., and is of great size.

THE ASTEROIDS, OR MINOR PLANETS.

The Asteroids are smaller planets circulating outside the orbit of Mars. They are all at distances from the sun ranging between 200,000,000 and 300,000,000 miles, the periods of sidereal revolution ranging from 1,100 to 3,000 days. Consequently their years are from three to nine times as long as ours. Nearly 250 of these minor planets have been discovered, and they are all very much smaller than the earth, some, indeed being only a few miles in diameter.

In olden times astronomers noticed a very considerable gap between Mars and Jupiter, which was remarkable when the regular progression of the distances between the planets was remembered. The discovery of Ceres in 1801 led to other discoveries, and now we have nearly two hundred asteroids. Pallas was discovered in 1802; Juno, 1804; Vesta, 1807; Astræa, 1845, and since 1848 every year has added to the list.

The hypothesis that all these asteroids are fragments of one large planet which has been destroyed was started by Olbers; and in confirmation of this view it has been determined that the asteroids have essentially the same character. The orbits of these minor planets are different from the larger "wanderers," and cross each other, so that a collision may one day ensue.

Vesta is the first in order in the system, and revolves in 1,325 days, at a mean distance of 225,000,000 of miles from the sun. Juno and Ceres take each about four of our years to revolve in their orbits, at greater distances still, averaging 260,000,000 of miles. Pallas and Ceres are most alike in their periods and distance from the sun. The principal asteroids are only about 300 miles in diameter.

METEORS.

Meteors are small erratic bodies rushing through the planetary system, and, getting hot in the process, appear in the atmosphere surrounding our earth as "shooting stars." Some of these falling bodies have reached the earth, and such are called "aerolites" or "meteorites." Numbers, of course, are burnt up before they reach us, and who can tell what destruction such a catastrophe may represent, or whether it be or be not an inhabited world which has thus been plunged to destruction by fire? They are of a metallic or stony nature. On certain nights in August and November it has been calculated that these meteors

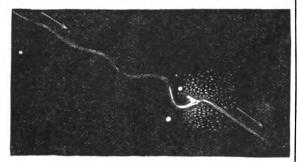


Fig. 20. An Exploding Meteor.

will appear. They fall from certain constellations, after which they are named; as Leonides, from Leo, in the November displays.

The star showers sometimes present the appearance of a beautiful display of rockets. Millions of them rush round

the sun, and when, as occasionally happens, our earth comes near them, we have a grand display of celestial fireworks.

It is estimated that the average number of meteors that traverse the atmosphere daily, and which are large enough to be visible to the eye on a dark, clear night, is 7,500,000; and if to these the telescopic meteors be added, the number will be increased to 400,000,000. In the space traversed by the earth there are, on the average, in each volume the size of our globe (including its atmosphere), as many as 13,000 small bodies, each one capable of furnishing a shooting star visible under favorable circumstances to the naked eye.

COMETS.

It has been lately suggested that there is a great degree of affinity between comets and meteors—in fact, that a comet is merely an aggregation of meteors. Comets have been supposed to be bodies of burning gas. Their mass is very great, and their brilliant tails are many millions of miles in extent. In their orbits, they differ greatly from the planets. While the latter are direct in their wanderings, comets are most irregular and eccentric. When first seen, the comet resembles a faint spot of light upon the dark background of the sky. As it comes nearer, the brightness increases and the tail begins to show itself.

The term *comet* signifies a hairy body. A comet consists usually of three parts: the nucleus, a bright point in the center of the head; the coma (hair), the cloud-like mass surrounding

the nucleus; and the tail, a luminous train extending generally in a direction from the sun.

It is not understood whether comets shine by their own or by reflected light. If, however, their nuclei consist of white-hot matter, a passage through such a furnace would be anything but desirable or satisfactory.

It is to Halley that the discovery of the elliptical orbit of comets is due. A comet had been observed in 1607, and Halley made a calculation that it would reappear in 1757. The expected visitor passed the perihelion in 1759. This comet, on its appearance at Constantinople, is said to have caused much consternation, and Christians regarded it as a "sign," for the Turks had just then captured Constantinople and were threatening Europe. Halley's comet was last observed in 1835.

Encke's, Biela's and the comets of 1843 and 1858 are comparatively recent. Others came in 1861, 1874, 1883. In 1881 two comets appeared. Some comets of antiquity were very remarkable, and are reputed to have equaled the sun in magnitude. One tail is usually supposed to be the distinguishing mark of a comet, but in 1774 one appeared with six tails, arranged something like a fan. Sometimes the tail is separated from the head. Some comets appear at regular intervals, and their approach can be determined with accuracy. Of course we only see those which are attracted by the sun, or those which

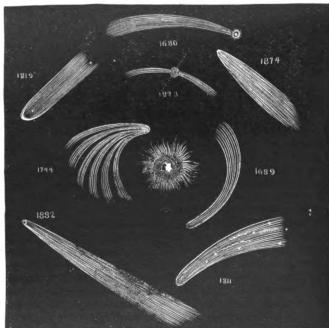


Fig. 21. Various Forms of Comets.

revolve in the solar system. There must be thousands of other comets which we never see at all.

The comet of 1680 pursued its course for two months at a

velocity of 800,000 miles an hour. The tail was estimated to extend 123,000,000 of miles, and a length of 60,000,000 of miles was emitted in two days. This comet appeared B.C. 34, and again at intervals of about 575 years, and will reappear about 2255.

Biela's comet was the cause of much anxiety in 1832, for a collision with the earth was feared. A month, however, intervened between the period at which the comet was expected at a certain place in the system and the earth's arrival at that spot, and so the comet was 60,000,000 miles away when the collision was apprehended. What the effect of such a collision would

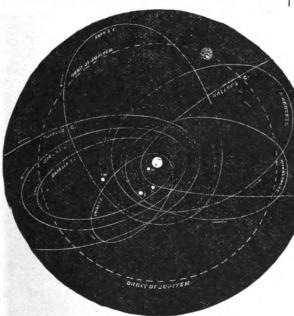


Fig. 22. Orbits of the Comets.

be, cannot be said. Wonderful atmospheric phenomena and increased temperature would, however, certainly result. If comets, as is believed, consist partly of solid particles, a collision would certainly be unpleasant; but their weight is probably a mere nothing compared to their vapory volume, which must be enormous. That the tails must be of a very attenuated medium, is evident, as the stars can be seen through them, although a very thin cloud will obscure a star.

THE ZODIACAL LIGHT.

This phenomenon, which may be seen in the western horizon on any clear winter or spring evening, after twilight, and also in the eastern horizon, just before daybreak, in summer or autumn, consists of a faint luminosity, extending out on each side of the sun, and lying nearly in the plane of the ecliptic. It can generally be traced to about 90 degrees from the sun, growing fainter as it rises above the horizon. In a very clear tropical atmosphere, however, it forms a complete ring, and may be traced all the way across the heavens. These appearances seem to indicate that it is due to a lens-shaped appendage surrounding the sun and extending a little beyond the earth's orbit. Various attempts have been made to explain the phenomenon, but the most probable theory is that it is due to an immense number of meteors revolving round the sun, and which lie mostly within the earth's orbit, each reflecting a sensible portion of sunlight, but far too small to be separately visible.

THE FIXED STARS.

Those stars which shine with a clear, distinct light, and visibly change their position with respect to the others, are called planets, and these have been fully described according to their order in our solar system. Those stars which apparently remain immovable, and shine with a shifting, twinkling light, are termed fixed stars, although it is now known that they also are in motion. Arcturus, for instance, moves at the rate of fifty miles a second, and others less, but only the rates of a few are known.

In the daytime we cannot see the stars because of the superior light of the sun; but with a telescope they can be traced, and an astronomer will find certain stars as well at noon as at midnight. When looking at the sky from the bottom of a deep well or lofty chimney, if a bright star happens to be directly overhead, it can be seen with the naked eye, even at midday.

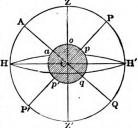
In reality, we never see the stars. This assertion seems paradoxical, yet it is strictly true. So far are the stars removed from us that we see only the light they send, but not the surface of the worlds themselves.

The number of the stars is beyond our calculation. Those visible only in the telescope amount to millions, and are called telescopic stars. The stars visible to the unaided eye amount to about six thousand. There are more visible in the southern than in the northern hemisphere. The magnitudes of the stars range in classes according to the brightness of the stars observed, for this is really the test from the first magnitude to the sixth; after that the telescopic stars are seen up to the fifteenth or sixteenth. We can only see about three thousand stars at one time from any place, although, as remarked above, many millions may be observed with a good telescope, and as

many more, probably twenty millions, are invisible.

The Motion of the Heavenly Bodies.

Attentive observation of the H starry heavens will convince us that all the visible stars describe circles which are the smaller the nearer the stars are to a certain point of the heavens, P (Fig. 23). Fig. 23. The Celestial Axis. Near this point there is a toler-



ably bright star, the Pole-star, which appears to the eye as always occupying the same position. A line, P P', drawn from the star through the center of the earth, C, represents the axis

around which all the heavenly bodies perform their apparent motions. The part of the celestial axis, PP', passing through the earth, is the earth's axis; the North Pole, p, is on the same side as the Pole-star, and the South Pole, p', is on the opposite

side. Thus pp' is the earth's axis, and the line aq, the plane of which cuts the earth's axis at right angles, is the equator, equally distant from both poles. Now if we suppose the plane of the equator to be extended to the heavens, we have the celestial equator, A Q, or equinoctial, dividing the heavens into the northern and southern hemispheres. The equinoctial cannot be actually described or made visible, but its line of direction may be imagined by observing the stars through which it passes.

By assigning to an observer stations on the earth's sur-

face differing in relation to the earth's axis, the aspects of celestial phenomena will be essentially modified. One of these stations may be supposed to be, for example, at one of the two poles, at

p, or at any point of the equator, as at q, or, finally, on any portion of the earth's surface which lies between the pole and the equator, as, for example, o.

The Constellations.

At a very early period in the history of astronomy the observers of the heavens grouped stars together in fancied resemblances to men and animals, and these constellations, as they are termed, are combinations of fixed stars. Many of the constellations are familiar by name to everybody. Illustrations of some of the more interesting are given. We shall find that the forms are in greater part due to the imagination of the ancients, and do not bear out our ideas of the animals, etc., they are supposed to represent, while at the same time they cross and recross with other constellations in the skies in a very puzzling manner. The twelve maps of the stars presented in subsequent pages will, however, enable us to gain a knowledge of the constellations as they appear on the sky on any night during the year.

The arrangement of the constellations is plunged in the obscurity of ages, but B.C. 370 there were forty-five thus | had ever been seen. * * * I finally became satisfied of

grouped. The brighter stars have all proper names, but most of the names have dropped entirely out of astronomical use, though many are popularly retained. The brighter stars are now generally designated by the letters of the Greek alphabet -

alpha, beta, gamma, delta, etc.,-to which is appended the genitive of the Latin name of the constellation. Thus Aldeboran would be designated as Alpha Tauri. When the letters of the Greek alphabet are exhausted, those of the Roman alphabet are employed. The fainter stars in a constellation are usually designated by some system of numbers.

Fig. 24. The Constellation Ursa Major, or the Great Bear, containing the Great Dipper, or Charles' Wain.

Double and Multiple Stars.

Many stars which appear single to the naked eye are really double when seen through the telescope, that is, they are composed of a

pair of stars lying side by side. Pairs of stars are not considered double unless the components are so near together that they both appear in the field of view when examined with a tele-

scope. When what appears as a single star is resolved into more than two components by the telescope, it is called a multiple

New and Variable Stars.

There are many stars which undergo changes of brilliancy, sometimes slight, but occasionally very marked. These changes, in some cases, are apparently irregular, and in others periodic. All such stars are said to be variable. Algol, in the constellation Perseus, is a variable star, whose period is now known to be 2d. 20h. 49 m. Mira, in the constellation Cetus, is generally invisible, but at intervals of about eleven months it shines forth as a star of the second or third magnitude. The star η of the constellation Argo (Eta Argus), in the southern hemisphere, is perhaps the most remarkable variable star in the heavens. It was first observed by Sir John Herschel, while at the Cape of Good Hope. He says: "On the 16th of December, 1837, my astonishment was excited by the appearance of a new candidate for distinction



Fig. 25. Virgo (The Virgin).

among the very brightest stars of the first magnitude in a part of the heavens where I was certain that no such brilliant object its identity with my old acquaintance Eta Argus, although its light was nearly tripled." It continued to increase until January 2, 1838, then faded a little till April following. In 1842 and 1843 it blazed up brighter than ever, and in March of

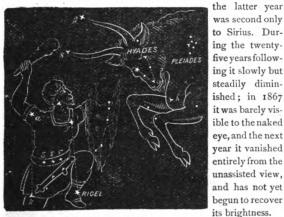


Fig. 26. Orion and Taurus.

rary stars are such as have suddenly appeared, and even become very brilliant, and then faded away and disappeared. They are now classified by astronomers among the variable stars, their changes being of very irregular and fitful character. In 1572 an apparently new star appeared in Cassiopeia, and was first seen by Tycho Brahé on November 11, when it had attained the first magnitude. It became rapidly brighter, rivaling Venus in splendor, so that good eyes could discern it in full daylight. In December it began to wane, and in the following May it had disappeared entirely. Kepler's star, first seen in October, 1604, in Ophiuchus, began to fade in the following winter, but remained visible throughout 1605,

disappearing entirely early in 1606. It was noted for its brilliant scintillation. Astronomers suppose that this star also appeared in 393, 798 and 1203, which would make it a variable star with a period of a little over 400 years. In May, 1866, a star of the second magnitude suddenly appeared in Corona Borealis, and this is the most striking case of the kind in recent times.

Distance of the Stars.

Such is the distance of the stars that only in a comparatively few instances has any displacement of these bodies been detected when viewed from opposite points of the earth's orbit—that is, from points 185,000,000 miles apart—and then only by the most careful and delicate measurement. Half of the above displacement, or the displacement of the star as seen from the earth instead of the sun, is called the *parallax* of the star. In no case has a parallax of one second as yet been discovered. The distance of a star whose parallax is one second would be

206,265 times the distance of the earth from the sun, or about 19,000,000,000,000 miles. It is quite certain that no star is nearer the earth than this. Light has a velocity which would take it seven and a half times around the earth in one second; but it would require more than three years to reach us from the distance named. If the Almighty, in his inscrutable wisdom, should blot all the stars out of existence, it would be more than three years before we should miss a single one. The star a in the constellation of the Centaur is supposed to be the nearest of the fixed stars, and it is estimated that it would take its light about three years and a half to reach us. It has also been estimated that it would take light over 16 years to reach us from Sirius, about 18 from Vega, about 25 from Arcturus and over 40 from the Pole-star. The stars named, however, are comparatively near to us, and there are many so far removed that their light requires a thousand years to reach the earth.

Proper Motion of the Stars.

The discovery of the real motion of the stars, called their "proper motion," is due to Halley. He noticed that three very bright stars, Sirius, Aldeboran and Arcturus, were not in the places assigned to them. The stars have come to be universally

denominated as fixed because they seem to retain their relative positions from year to year. Although moving at the rate of many-miles a second, their distance is so enormous that, in the majority of cases, it would be thousands of years before this rate of motion would produce a sufficient displacement to be noticeable to the unaided eye. In the course of ages, however, a marked change in the configura-



Fig. 27. Coma Berenices (Berenices Hair).

tion of the stars will be produced.

The stars in all parts of the heavens are found to move in all directions, and with all sorts of velocities. When, however, their motions are averaged, there is found to be an apparent proper motion common to all the stars. Those in the



Fig. 28. Arcturus and Bootes.

neighborhood of Hercules appear to be approaching us, and those in the opposite part of the heavens appear to be receding from us. In other words, all the stars appear to be moving stars is due to

the real motion

the sun and the

planets of his

system through

space. Wheth-

er this motion of

the sun is in a

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around some dis-

tant center, has

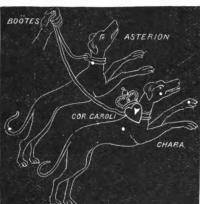
not been deter-

mined, but it is

estimated that our great lumin-

away from Hercules and towards the opposite part of the heavens.

Astronomers hold that this apparent common motion of the



ary moves along
Fig. 29. Canes Venatici (The Hunting Dogs). his path at the

rate of about 150,000,000 miles a year. In some cases, groups of stars, probably forming connected systems, have a common proper motion, entirely different from that of the stars around and among them. The most remarkable instance of this kind occurs in the constellation Taurus. Proctor has shown that five of the seven stars forming the Great Dipper have a common proper motion, and he proposes for this phenomenon the name of Star-drift.

NEBULÆ AND STAR-CLUSTERS

Are numerous in the heavens. The most important are those in Orion and in Andromeda. But there are other very beautiful "patches" of luminous matter, or cloud appearances, composed of stars invisible to the naked eye. There must be thousands of these star-clouds.

The nebulæ present the appearance of various forms—circular, elliptical, annular and spiral. Sometimes one or more minute stars are enveloped in a nebulous haze, and are hence called nebulous stars. The great nebula of Andromeda is one of the few that are visible to the naked eye. One can see at a glance that it is not a star, but a mass of diffused light, and it has sometimes very naturally been mistaken for a comet. Its spectrum suggests that it is really an immense star-cluster, so distant that the highest telescopic power cannot resolve it, yet in the largest telescopes it looks more like a gas than in those of moderate size.

The great nebula of Orion, surrounding the middle star of the three forming the sword, has above all others excited the wonder of observers. In its center are four stars, easily distinguished by a small telescope, together with two smaller ones requiring a

nine-inch telescope to be well seen. Besides these, the whole nebula is dotted with stars. A good eye will perceive that what appears as a single star, instead of looking like a bright point, has a hazy appearance, due to the surrounding nebula. Huyghens first described the object in 1659. He says: "There is one phenomenon among the fixed stars worthy of mention, which, so far as I know, has hitherto been noticed by no one, and indeed cannot be well observed except with large telescopes. In the sword of Orion are three stars quire close together. In 1656, as I chanced to be viewing the middle one of these with the telescope, instead of a single star, twelve showed themselves (a not uncommon circumstance). Three of these almost touched each other, and with four others shone through a nebula, so that the space around them seemed far brighter than the rest of the heavens, which was entirely clear, and appeared quite black; the effect being that of an opening in the sky, through which a brighter region was visible."

The Nebular Hypothesis.

What is termed the Nebular Hypothesis was put forward by Laplace, and by it he endeavored to account for the regular

development of the stellar system, which is supposed to have originated from an immense nebular cloud. This immense mass would rotate and contract, and the outer portions would separate and develop into rings like Saturn's rings. Then the rings break into separate portions, and each portion condenses into a planet, or the small "bits" travel round the sun like asteroids, and in this manner various systems were formed. This theory was considered to be quite exploded when stars were discerned in nebulæ by the more recent telescopes; but then the spectroscope came to our aid, and it was discovered that there were some nebulæ

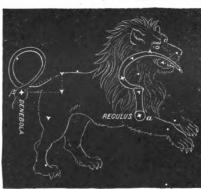


Fig. 30. Leo (The Lion).

which are simply masses of glowing gas or aggregations of stones which are dashing against each other in so forcible a manner as to produce heat and luminosity.

Proctor has put forward a hypothesis that the star or meteor showers are the original cause of the sidereal sys-

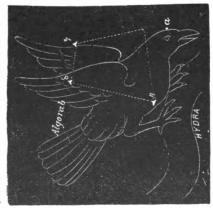


Fig. 31. Corvus (The Crow),

tem, and that this rain of meteors has fallen for all time, gradually consolidating into orbs.

THE MILKY WAY

Is a whitish, vapory-looking belt, and is composed of multitudes of millions of suns, of which our own sun itself is one, so far removed from us that their light mingles and makes only a fleecy whiteness. Philosophers have frequently discoursed upon this phenomenon, but all statements must remain more or less speculative. From Kepler's to the present time astrono-

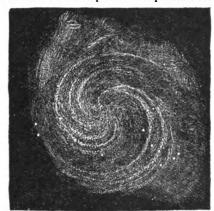


Fig. 32. A Spiral Nebula.

mers have been considering the Milky Way, but an actual knowledge is still beyond us. It is agreed, however, that the galaxy is not a continuous stream, but a series of luminous patches, most extraordinary aggregations of stars, which it is not only impossible to count, but each of which appears to be

independent of the others. "The sidereal system," says Proctor, in his Universe of Stars, "is altogether more complicated, altogether more varied in structure than has hitherto been supposed. Within one and the same region co-exist stars of many orders of real magnitude, the greatest being thousands of times larger than the least. All the nebulæ hitherto discovered, whether gaseous or stellar, irregular, planetary, ring-formed, or elliptic, exist within the limits of the sidereal system. They all form part and parcel of that wonderful system whose nearer and brighter parts constitute the glories of our nocturnal heavens."

And a little reflection will show how true this is. Not very long ago in the world's life the solar system was supposed to consist of one sun with a few planets wandering around him. Then some more were found, and they were called "satellites." For a long time man fancied he had reached the "ultima thule" of astronomy in these depths; but the whole idea was changed when it was discovered that beyond Mars there lie the asteroids and the host of bodies in this solar system which we cannot do more than allude to. Then when we consider this "sun" of ours, which we think so enormous, and which keeps in subjection and illuminates so many heavenly bodies, and when we reflect that there are in space, and visible, stars many times larger than our ruling orb, each a sun, and that our sun would, if placed where the great Sirius glows, be but a speck in the firmament, and his system invisible to our eyes, we may well wonder at the magnitude of the subject and bow down before the wisdom and power of Him "at whose sight all the stars hide their diminished heads."



A DIGTIONARY OF ASTRONOMICAL DEFINITIONS.

Apogee. The point of a planet's orbit farthest from the earth. (Generally used only when speaking of the moon.)

Apsides (plural of *Apsis.*) The two points of an orbit which are respectively the greatest and least distance from the central body.

Axis. A real or imaginary straight line on which a body revolves or is supposed to revolve.

Azimuth. An arc of the horizon intercepted between the meridian of the place and a vertical circle passing through the center of any object. See Nadir and Zenith.

Celestial Globe. An artificial globe representing the constellations and the signs of the Zodiac in their places in the heavens.

Celestial Sphere. The blue arch of the sky as it appears spread above us.

Circumference. The line that goes round or encompasses a circular figure.

Aphelion. That point of a planet or comet's orbit which is most distant from the sun; the opposite point is called the perihelion.

Apogee. The point of a planet's orbit farthest from the earth. (Generally used only when

Conjunction. Planets are in conjunction with each other when in the same sign and degree. A planet with the sun between it and the earth is in conjunction with the sun.

Declination. The distance of the heavenly bodies from the equinoctial measured as a meridian. In other words, latitude upon a celestial globe. The *Tropics* indicate the limits of the globe. The Tra

Degree. The 360th part of the circumference of a circle.

Diameter. A right line passing through the center of a circle or sphere.

Disc. The apparently flat surface of a planet.

Diurnal. Constituting the measure of a day. Diurnal arc, the arc described by the sun during the daytime or while above the horizon. Diur-

nal circle, the apparent circle described by a celestial body in consequence of the earth's rotation.

Ecliptic. The earth's orbit about the sun, or the sun's apparent path through the heavens. The sun, of course, does not actually move, and there-fore the track, or supposed circle, is really the earth's motion observable from the sun. When earth's motion observable from the sun. When the moon is near this circle eclipses happen. The ecliptic cuts the equinoctial at an ange of 32 28', one-half being to the north and the other to the south of the equinoctial. The poles of the ecliptic are the points where the axis of the earth's orbit meets the celestial sphere.

Elliptical. Oval or oblong, with rounded ends. Epicycle. A circle in the center of a greater circle.

Equator. An imaginary great circle on the earth's surface, everywhere equally distant from the two poles and dividing the earth into two hemispheres. The equator of the heavens is a great circle of the celestial sphere, coincident great circle of the celestial sphere, coincident with the plane of the earth's equator, and called Equinoctial. The plane of the equator extended to the heavens. When the sun appears in that line the days and nights are of equal duration—12 hours each. This occurs about the 21st of March and the 23d of September. The term equinoctial is from the two Latin words equaes, equal, an nox, night.

equinoctial is from the two Latin words equaes, equal, and nox, night.

Equinoxes. The points where the equinoctial and the ecliptic (the sun's apparent path through the heavens) intersect. The vernal equinox is the place where the sun crosses the equinoctial, commonly called "crossing the line," in going north, which occurs about the 21st of March. The autumnal equinox is the place where the sun crosses the equinoctial in going south, which occurs about the 21st of September.

Howizon. The xitenal herican is the great

Horizon. The rational horizon is the great circle passing through the center of the earth, separating the visible from the invisible heavens. The sensible (apparent) horizon is the small circle where the earth and sky seem to meet. It is parallel to the rational horizon, but distant from it the semi-diameter of the earth. No two places have the same sensible horizon.

Latitude. The distance from the ecliptic at a right angle north or south. Parallels of latitude are familiar circles parallel to the equator. Latitude and longitude upon a celestial globe are known respectively as "declination" and "right ascension."

Longitude. The distance in degrees, reckoned from the vernal equinox, on the ecliptic, to a circle at right angles to it passing through the heavenly body whose longitude is designated.

Lunar. Relating to the moon.

Lunation. The period of a synodic revolution of the moon, or the period from one new moon to the next.

Meridians. Circles passing through the poles at right angles to the equinoctial. Every place is supposed to have a meridian, but astronomers apply only twenty-four to the heavens, and they represent the sun's, or the planets', "movements" every hour—15° being one hour, 360° being 24 hours.

The zenith is the point directly overhead, and the nadir the one directly under foot. Azimuth circles are circles drawn through these points.

Nocturnal. Relating to night.

Nodes. The opposite points of a planet where its orbit cuts the ecliptic or the earth's orbit.

Occident. The western quarter of the hemisphere.

Occultation. The hiding of a heavenly body from sight by the intervention of some other of the heavenly bodies.

Opposition. A planet with the earth between it and the sun is in opposition.

Orbit. The path described by a planet revolving round the sun. The plane of the orbit is an imaginary surface cutting through the center of the sun and the planet and extending to the stars. The inclination of an orbit is the plane of the orbit with reference to the plane of the earth.

Orient. The part of the horizon where the sun first appears in the morning.

Orrery. An apparatus illustrating, by means of small balls mounted on rods and moved by wheelwork, the size, motions, positions, orbits, &c., of the bodies of the solar system.

Oscillation. Moving backward and forward, or swinging like a pendulum; vibration.

Parallax. The difference between the position of a body as seen from some point on the earth's surface and its position as seen from some other conventional point, as the earth's center or the sun.

Parallel. A line which, throughout its whole extent, is equidistant from another line.

Parhelion. A mock sun or meteor, appearing in the form of a bright light near the sun, and sometimes tinged with colors like the rainbow, with a luminous train.

Penumbra. The shadow cast, in an eclipse, where the light is only partly cut off by the intervening body; the space of partial illumination, between the *umbra*, or perfect shadow, and the light.

Perigee. The opposite of apogee.

Perihelion. That point in the orbit of a planet or comet in which it is nearest to the sun.

Radius Vector. A line drawn from a planet to the sun, wherever the planet may be.

Right Ascension. Corresponds to "longitude" on a celestial globe.

Sidereal. "Measured by the apparent motion of the stars. See *Time*.

Sign. The twelfth part of the ecliptic or zodiac. See Zodiac.

Solstices. The points in the ecliptic at which the sun is furthest from the equator, north or south, namely, the first point of Cancer and the first point of Capricorn, the former, about the 21st of June, being called the summer solstice, and the latter, about the 21st of December, the winter solstice.

Spectroscope. An optical instrument used in determining the physical constitution of the heavenly bodies by analyzing their light.

Sphere. 1. An orb, or star. 2. The apparent surface of the heavens, which seems to the eye spherical, and in which the heavenly bodies appear to have their places.

pear to have their places.

Time. "Apparent" time is indicated by the sun; "sidereal" time by the stars. Mean time is that marked by a perfect clock, giving every day in the year equal length. A sidereal day is the exact interval of time in which the earth revolves on its axis. It is found by marking two successive passages of a star across the meridian of any place. This so absolutely uniform that the length of the sidereal day has not varied 1-100 of a second in 2,000 years. The sidereal day is divided into twenty-four equal portions, which are called sidereal hours, and each of these into sixty portions, termed sidereal minutes, etc. A solar day is the interval between two successive passages of the sun across the meridian of any place. If the earth were stationary in its orbit, the solar day would be of the same length as the sidereal; but while the earth is turning around on its axis, it is going forward at the rate

of 360° in a year, or about 1° per day. When the earth has made a complete revolution, it must, therefore, perform a part of another revolution through this additional degree, in order to bring the same meridian vertically under the sun. One degree of diurnal revolution is about equal to four minutes of time; hence, the solar day is about four minutes longer than the sidereal day. The civil day extends from midnight to midnight. The present method of dividing the day into two portions of twelve hours each, was adopted by Hipparchus, 150 years B.C., and is now in general use over the civilized world. Until recently, however, very many nations terminated one day and commenced the next at sunset. Under this plan, 10 o'clock on one day would not mean the same as 10 o'clock on another day. The Puritans commenced the day at 6 P.M. The Babylonians, Persians, and modern Greeks begin the day at surrise.

Transit. 1. The passage of a smaller heavenly body across the disc of a larger; as of Venus or Mercury across the sun's disc. 2. The passage of a body over the meridian of a place, or through the field of a telescope.

Vertical. Planets are vertical when directly

Zenith. See Nadir.

Zodiac. A girdle entending 8° on each side of the ecliptic, in which space of 16° the planets move. The zodiac is divided into twelve parts of 30° each, called the "Signs." Their names are as under written:

NORTHERN SIGNS.

Spring.

Aries, the Ram, March. Taurus, the Bull, April. Gemini, the Twins, May.

Summer.

Cancer, the Crab, June. Leo, the Lion, July. Virgo, the Virgin, August.

SOUTHERN SIGNS.

Autumn.

Libra, the Balance, September. Scorpio, the Scorpion, October. Sagittarius, the Archer, November.

Winter.

Capricornes, the Goat, December. Aquarius, the Waterbearer, January. Pisces, the Fishes, February.

The signs are reckoned from the point of intersection of the ecliptic and equator at the vernal equinox. The names were originally the names of the constellations occupying severally the divisions of the zodiac, by which they are now retained. In consequence of the precession of the equinoxes, however, the signs have, in process of time, became separated about 30 degrees from these constellations, and each of the latter now lies in the sign next in advance, or to the east of the one which bears its name. The constellation Aries now lies, for instance, in the sign Taurus, etc.





How . TO . READ . THE . SKY.



Half-Hours with the Stars: A Plain and Easy Guide to the Knowledge of the Constellations.

WITH TWELVE MAPS OF THE HEAVENS, TRUE FOR EVERY YEAR.

By RICHARD A. PROCTOR, B.A., F.R.A.S.

T is very easy to gain a knowledge of the stars, if the learner sets to work in the proper manner. But he commonly meets with a difficulty at the outset of his task. He provides himself with a set of the ordinary star-maps, and then finds himself at a loss how to make use of them. Such maps tell him nothing of the position of the constellations on the sky. If he happen to recognize a constellation, then, indeed, his maps, if properly constructed, will tell him the names of the stars forming the constellation, and also he may be able to recognize a few of the neighboring constellations. But when he has done this, he may meet with a new difficulty, even as respects this very constellation. For if he look for it again some months later, he will neither find it in its former place, nor will it present the same aspect,—if, indeed, it happen to be above the horizon at all.

It is clear, then, that what the learner wants is a set of maps specially constructed to show him in what part of the sky the constellations are to be looked for. He ought, on any night of the year, to be able to turn at once to the proper map, and in that map he ought to see at once what to look for, toward what point of the compass each visible constellation lies, and how high it is above the horizon. And, if possible (as the present work shows is the case), one map ought to suffice to exhibit the aspect of the whole heavens, in order that the beginner may not be confused by turning from map to map, and trying to find out how each fits in with the others.

It is to fulfill these requirements that the present maps have been constructed. Each exhibits the aspect of the whole sky at a given day and hour. The circumference of the map represents the natural horizon, the middle of the map representing the part of the sky which lies immediately overhead. If the learner hold one of these maps over his head, so as to look vertically upward at it, the different parts of the horizon marked in round the circumference being turned toward the proper compass points, he will see the same view of the heavens as he would if he were to lie on his back and look upward at the sky, only that the map is a planisphere, and the sky a hemisphere.

But, although this illustration serves to indicate the nature of the maps, the actual mode of using them is more convenient.

Let it first be noted that, properly speaking, the maps have neither top, bottom, nor sides. Each map may be held with any part of the circumference downward; then the center of the map is to be looked upon as the top for that part of the circumference. The portion of the map lying beneath the center represents the portion of the sky lying between the point overhead and a certain portion of the horizon—the part, in fact, corresponding to the particular part of the circumference which is turned downward. Thus, if on any night we wish to learn what are the stars toward the north, we look for the map corresponding to that night. At the hour named the stars toward the north will be those shown between the center of the map and the top; and, of course, we hold the map upside down, so as to bring the center above the northern part of the circumference.

Again, it must be noted that, although the maps are necessarily arranged in a certain order, there is in reality no first or last in the series. The map numbered I. follows the map numbered XII. in exactly the same manner that the latter follows the map numbered XI. The maps form a circular series, in fact.

The only reason for numbering the maps as at present is that the map numbered I. happens to exhibit the aspect of the sky at a convenient hour on the night of January I. It will be found that the dates follow on with intervals of three or four days right round the year, the end of the year falling in the left-hand column of Map I., while the beginning of the year is in the middle column of the same map. It may be mentioned, in passing, that the dates have not been thrown in so as to fall regularly round the year, but correspond with the variations due to the earth's variable motion round the sun.

It will be seen at once that a map can always be found corresponding to a convenient hour on any night of the year, except only in midsummer, when, on a few of the dates, night has not begun at the hour named. It was impossible, without spoiling the regularity of the dating, or adopting an inconveniently late hour for all the maps, to avoid this difficulty. But, as a matter of fact, the difficulty disappears at once when the student is told that on any date named under a map, the aspect of the sky two hours later than that named, is that represented in the following map. Thus, at eight o'clock in the evening of June 21, the aspect of the stars is as shown in Map VI., but the stars cannot be seen, because it is still daylight; at ten o'clock, however, on the same night, the aspect of the sky is that shown in Map VII, as, indeed, the first date under that map shows.

Next as to finding the north point, or any point of the compass which will enable the observer to determine the rest. If he is only familiar with the aspect of those seven bright stars of the Great Bear which have been called Charles' Wain, the Butcher's Cleaver, the Great Dipper, and by other names, he can always determine the north point by means of the two stars called the pointers, since these seven stars never set. In the

explanation of each map it is shown where the Great Bear is to be looked for on each night, the observer being assumed to have such a general knowledge of the direction of the compass-points as will suffice for the purpose of finding so marked a collection of stars. Thus the pole-star is found, and for the purpose of such observations as are here considered, this star may be looked upon as marking the exact direction of the north.

It is worth noticing that the stars called the Guardians of the Pole form no bad time-piece when used with the aid of such maps as the present. They revolve round the pole once in twenty-four hours (less about four minutes), in a direction contrary to that of a clock's hands. But stars near the equator, whose motions are much more rapid, afford a yet better measure of time, if the direction of the south point is well determined.

It will be well for the student to remember that the planets Venus, Mars, Jupiter and Saturn will at times appear among the constellations here shown. Venus and Jupiter can always be recognized by their superior light, and Mars and Saturn by the steadiness with which they shine. As they never appear, save among the zodiacal constellations, it becomes very easy to recognize them.

The following list exhibits the names of all the stars of the first three magnitudes to which astronomers have given names; at least, all those whose names are in common use:

a	Andromeda (Andromeda)
β	Andromeda (Andromeda)
γ	"Almach,
а	Aquarii (Aquarius—The Water-Bearer)Sadalmelik.
β	"
ð	"
а	Aquilæ (Aquila—The Eagle)
ß	"
γ	" Tarazed.
,	Arietis (Aries-The Ram)
R	" Sheratan.
y	" Mesartim,
	Aurigæ (Auriga—The Waggoner, or Charioteer)Capella.
R	"
μ	
a	Boötis (Boötes)
β	"
77	" Izar, Misar, Mirack. " Muphrid.
•	
_	C
а	Canum Ven. (Canes Venatici—The Hunting Dogs) Cor Caroli.
a	Canis Majoris (Canis Major-The Great Dog) Sirius.
β	Canis Majoris (Canis Major—The Great Dog)Sirius. "Mirzam.
α β ε	Canis Majoris (Canis Major—The Great Dog)Sirius. " Mirzam. " Adara.
α β ε α	Canis Majoris (Canis Major—The Great Dog)Sirius. " " Mirzam. " Adara. Canis Minoris (Canis Minor—The Little Dog)Procyon.
α β ε α β	Canis Majoris (Canis Major—The Great Dog)Sirius. "
α β ε α β	Canis Majoris (Canis Major—The Great Dog)Sirius. """
α β ε α β α² δ	Canis Majoris (Canis Major—The Great Dog)
α β ε α β α² δ	Canis Majoris (Canis Major—The Great Dog)
α βε αβ αδ αβ	Canis Majoris (Canis Major—The Great Dog)
α βε αβ αδ αβ	Canis Majoris (Canis Major—The Great Dog)
α βε αβ αδ αβ	Canis Majoris (Canis Major—The Great Dog)
α βε αβ αδ αβ	Canis Majoris (Canis Major—The Great Dog)
αβε αβαδ αβ αβγ	Canis Majoris (Canis Major—The Great Dog)
αβε αβαδ αβ αβγ	Canis Majoris (Canis Major—The Great Dog)
αβε αβαδ αβ αβγ	Canis Majoris (Canis Major—The Great Dog)
αβε αβαδ αβ αβγ αβ	Canis Majoris (Canis Major—The Great Dog)

a Corona Bor. (Corona Borealis—Northern Crown). Alphecca. a Corvi (Corvus—The Crow)
` -
δ "
a Crateris
a Cygni (Cygnus-The Swan) Arided, Deneb, Adige.
β "
a Draconis (Draco)
β "
y "Etanin.
β Eridani (Eridanus)
γ "Zaurac.
a Geminorum (Gemini—The Twins)
β " Pollux.
y "
ε "
a Herculis (Hercules)
β "
a Hydræ (Hydra-The Water Snake) Alphard, Cor Hydræ.
a Leonis (Leo-The Lion) Regulus, Cor Leonis.
3 " Deneb Aleet, Denebola, Deneb.
γ "
a Leporis (Lepus)
a Libra (Libra—The Scales)Zuben el Genubi.
β "Zuben el Chamali.
γ "Zuben Hakrabi.
a Lyra (The Lyra—The Lyre)
β " Sheliak.
y "Sulaphat.
a Ophiuchi (Ophiuchus-The Serpent-Bearer) Ras Alhague.
β "
·
a Orionis (Orion)
d " Mintaka.
δ "
δ "
δ " Mintaka. ε " Alnilam. α Pegasi (Pegasus) Markab.
6 " Mintaka. ε " Alnilam. a Pegasi (Pegasus) Markab. β " Scheat.
δ " Mintaka. ε " Alnilan. a Pegasi (Pegasus) Markab. β " Scheat. γ " Algenib.
i " Mintaka. t " Alnilam. a Pegasi (Pegasus) Markab. β " Scheat. γ " Algenib. t " Enif.
i " Mintaka. t " Alnilam. a Pegasi (Pegasus) Markab. β " Scheat. γ " Algenib. t " Enif. ζ " Homan.
i " Mintaka. ε " Alnilam. a Pegasi (Pegasus) Markab. β " Scheat. γ " Algenib. ε " Enif. ζ " Homan. a Persei (Perseus) Mirfak.
δ " Mintaka. ε " Almilam. a Pegasi (Pegasus) Markab. β " Scheat. γ " Algenib. ε " Enif. ζ " Homan. a Persei (Perseus) Mirfak. β " Algol.
Mintaka Mintaka Almilam
δ " Mintaka. ε " Almilam. a Pegasi (Pegasus) Markab. β " Scheat. γ " Algenib. ε " Enif. ζ " Homan. a Persei (Perseus) Mirfak. β " Algol.
distribute Mintaka Mintaka Mintaka Mintaka Mintaka Almilam Markada Markada Markada Markada Mintaka
i Mintaka. i Mintaka. i Mintaka. a Pegasi (Pegasus) Markab. β " Scheat. γ " Algenib. ε " Enif. ζ " Homan. a Persei (Perseus) Mirfak. β " Algol. a Piscis Aust. (Piscis Australis—The Southern Fish) Fomalhaut. ε Sagittarii (Sagittarius—The Archer) Kaus Australis. a Scorpionis (Scorpio—The Scorpion) Antares, Cor Scorpionis.
i " Mintaka. e " Almilam. a Pegasi (Pegasus)
δ " Mintaka. ε " Almilam. a Pegasi (Pegasus) Markab. β " Scheat. γ " Algenib. ε " Enif. ζ " Homan. a Persei (Perseus) Mirfak. β " Algol. a Piscis Aust. (Piscis Australis—The Southern Fish) Fomalhaut. ε Sagittarii (Sagittarius—The Archer) Kaus Australis. a Scorpionis (Scorpio—The Scorpion) Antares, Cor Scorpionis. a Serpentis (Serpens—The Serpent) Unukalhai. a Tauri (Taurus—The Bull) Aldeboran.
i " Mintaka. e " Alnilam. a Pegasi (Pegasus) Markab. β " Scheat. γ " Algenib. e " Enif. ζ " Homan. a Persei (Perseus) Mirfak. β " Algotic. a Piscis Aust. (Piscis Australis—The Southern Fish) Fomalhaut. e Sagittarii (Sagittarius—The Archer) Kaus Australis. a Scorpionis (Scorpio—The Scorpion) Antares, Cor Scorpionis. a Serpentis (Serpens—The Serpent) Unukalhai. a Tauri (Taurus—The Bull) Aldeboran. β " Nath.
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MAP I.- HALF-HOUR WITH THE STARS IN JANUARY.



Dec. 21, at 10 o'clock in the evening; Dec. 24, 9:45; Dec. 28, 9:30; Jan. 1, 9:15; Jan. 5, 9:00; Jan. 8, 8:45; Jan. 12, 8:30; Jan. 16, 8:15; Jan. 20, 8:00.

HE Great Bear lies toward the northeast. The Pointers are uppermost, and the pole star is toward the left. The two stars known as the Guardians of the Pole (β and γ of the Little Bear) hang below the pole-star, slightly toward the right. The Dragon forms a loop of stars below the Little Bear. The Lyre is low down on the left, its chief star, Vega, scintillating brilliantly. Still further on the left, almost due northwest, is the fine cross of Cygnus. Following the direction indicated by the upright of the cross, raise the eyes toward the point overhead, and recognize the constellation Cassiopeia, by the five bright stars forming a figure resembling the letter W (now raised on end, the points of the W to the left). Returning to the horizon, and looking further around to the left, we see due west the constellation Pegasus, or the Winged Horse. He is now inverted, his head being close to the horizon on the right. The square of Pegasus, formed by the bright stars Rigel, Betelgeux, Bellatrix and Alpherat, will attract the observer's notice, and lead him to the constellation Andromeda, Alpherat being in Andromeda's head. The length of this constellation is now almost vertical, and between the feet of Andromeda and the point overhead lies the constellation Perseus. Notice Algol (the Demon Star of the Arabs), lying due southwest, close up to the point overhead. Of the variations of this remarkable star a great deal might be said. Usually the observer will see it of the second

magnitude, however, as it only remains a fourth magnitude star for about twenty minutes. Immediately below Perseus is Aries, recognizable by the three stars which form the Ram's head. Below that again is Cetus, the Whale. Due south lies Eridanus, consisting chiefly of small stars, which cover a wide expanse of sky. Above is Taurus, recognizable at once by the Pleiades and Aldeboran. Still turning toward the left we see Orion, nearly upright, but with his shoulders slightly thrown back. Immediately below Betelgeux (Ibt-al Jauza, the Giant's Shoulder) is Canis Major, on his hind feet, and throwing a forepaw toward the Little Hare (a constellation of small stars directly below Orion). Observe the leading star of the Dove (a Columba) directly below a Leporis. Almost due west, and midway between the horizon and the point overhead, are the twin stars Castor and Pollux, Castor being uppermost. Still higher lies Auriga, the star Capella, always a very conspicuous object, shining very brilliantly at this elevation. Canis Minor lies below the feet of the Twins. Observe the small cluster Præsepe, or the Beehive (only visible on very clear nights); it lies now almost exactly midway between Castor and the horizon. Further to the left, and near the horizon, is the Lion. It is well to notice "The Sickle" (the group of stars formed by Regulus, $\eta, \gamma, \mu, \varepsilon$, and two small stars), as this is a well-marked object.

MAP II.-HALF-HOUR WITH THE STARS IN FEBRUARY.



Jan. 20, at 10 o'clock in the evening; Jan. 23, 9:45; Jan. 27, 9:30; Jan. 31, 9:15; Feb. 4, 9:00; Feb. 7, 8:45; Feb. 11, 8:30; Fob. 15, 8:15; Feb. 19, 8:00.

HE Great Bear is now midway between the horizon and the point overhead, and toward the northeast. The "pointers" are uppermost, and the pole-star lies toward the left (as shown in the map). The Guardians of the Pole are seen below, and toward the right. Immediately below the pole lies the Dragon's Head, the body and tail extending toward the right, to a point between the pointers and the Guardians of the Pole. Vega is seen just above the horizon, slightly to the left of the north point. Further to the left is the upper part of Cygnus, above which is the inconspicuous Cepheus. Due northwest, and high above the horizon, is Cassiopeia, the W being now in this position . Further to the left, and close to the horizon, is the Flying Horse. The square of Pegasus stands just above the horizon. The upper corner (Alpherat) of the square belongs to Andromeda, still inverted; and above the feet of Andromeda we see Perseus. Algol is now due west. Below Algol, but slightly to the left, is Aries; and still lower, and further to the left, Cetus appears, the figure presented by its principal stars reminding one of the Mantis insect. It is now setting. The star Mira may not be visible, as this is a variable, invisible at regular intervals for months together. Notice Eridanus setting toward the southwest, and Taurus above; and then turn to Orion, almost due south, standing erect in all his glory, at the greatest elevation

he ever attains in our latitude. To the left, low down, we see the Greater Dog, Sirius, now shining with his full splendor. The dog is still rampant; indeed, he is never seen otherwise in our latitudes. Looking upward, and somewhat further to the left, almost due southeast, we see the Twins, their feet resting on the borders of the Milky Way. Still higher is Auriga, now, in fact, overhead. Below the Twins see the Little Dog. Below this constellation the stern of the ship Argo is rising into view. But as the part of this constellation which rises above our horizon contains no conspicuous stars, we need not pay much attention to it at this stage of our star-gazing.

Somewhat to the east of southeast we see a single conspicuous star—though several small stars are seen in the neighborhood. This is Cor Hydræ, the Heart of the Sea Serpent. The Arabian astronomers gave to this star the name of Al Fard, or The Solitary One. Leo lies toward the east, and between the Sickle in Leo and the Lesser Dog we recognize Præsepe, and the two small stars on either side, known to the ancients as the Aselli.

We have now come round again to the Great Bear. Observe how much larger an extent of sky this constellation covers than is commonly assigned to it by beginners. Below the Bear's tail the head and shoulders of Boötes are rising into view.

MAP III.—HALF-HOUR WITH THE STARS IN MARCH.

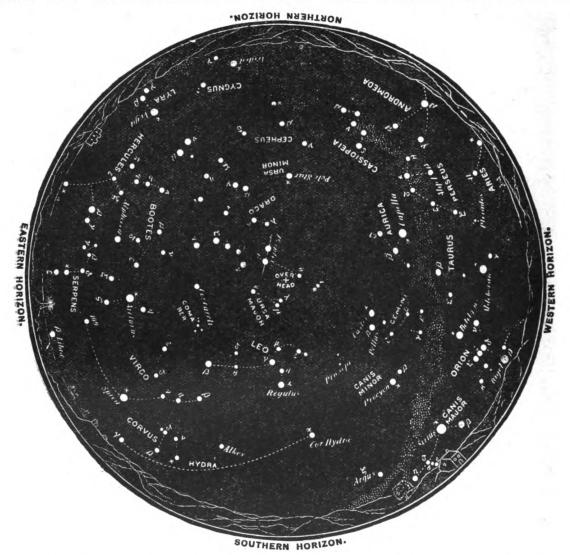


Feb. 19, at 10 o'clock in the evening; Feb. 22, 9:45; Feb, 26, 9:30; March 2, 9:15; March 6, 9:00; March 9, 8:45; March 13, 8:30; March 17, 8:15; March 21, 8:00.

HE Great Bear is now approaching the point overhead, but is easily recognized toward the northeast. The Pointers, as shown, indicate the pole-star toward the left, and considerably below them. The Guardians of the Pole now lie on the right of, and somewhat below the pole-star. Vega shines just above the horizon, immediately below them. Between lies the Dragon's Head; and we see the body and tail of the Dragon curving round between the head and the Guardians of the Pole. The upper part of Cygnus is now all that can be seen of this constellation, almost due north on the horizon. Further to the left, and well raised above the horizon, we see Cassiopeia. Andromeda is now approaching the horizon, her head almost touching it toward the northwest. Next on the left is Aries, and above Aries is Perseus. Above Perseus is Auriga, Capella being almost due west. Cetus has nearly set, only its head being visible above the horizon. Above Eridanus (now nearly set) is Taurus, very favorably situated for observation. The Pleiades lie due west, and Aldeboran—a brilliant red star—to their left. Orion is toward the southwest, bending forward toward the west. Above him, but somewhat to the left, are the Twins, Castor still uppermost. Below the Twins are the

two Dogs, Canis Major toward the south-southwest, and low down. Cor Hydræ lies midway between the south and the southeast, and is well raised above the horizon. It is interesting to notice how blank this part of the heavens appears, so far, at least, as conspicuous stars are concerned. Toward the southeast is Alkes, the chief star in the Cup; and we notice the Crow just rising into view toward the left. Above we recognize Leo, the Sickle being now a conspicuous object. Virgo has risen partially into view above the eastern horizon. The cupshaped group formed by the five stars shown in the map was called by the Arabian observers, for reasons not yet explained, "The Retreat of the Howling Dog." Boötes has now risen above the horizon, though as yet in a recumbent position. Arcturus is a conspicuous object on the right of this constellation. Below the head and shoulders of Boötes notice the Crown, one star only of which (Alphecca) is shown in the map. Doubtless this group of stars originally formed the right arm of Boötes. The constellation recently attracted much notice as the region in which a new star (or rather, an irregular variable) made its appearance a year or two ago. Hercules is gradually rising into view toward the northeast.

MAP IV.—HALF-HOUR WITH THE STARS IN APRIL.



March 21, at 10 o'clock in the evening; March 24, 9:45; March 28, 9:30; April 1, 9:15: April 5, 9:00; April 8, 8:45;
April 12, 8:30; April 16, 8:15; April 20, 8:00.

HE Great Bear is now easily found, being nearly overhead. The pole lies below the Pointers.

The Guardians of the Pole are now somewhat higher than the pole toward the right. Below the pole-star is Cephus, and due west of him is Cassiopeia, the W gradually approaching its natural position. Andromeda's feet are to be seen above the southwestern horizon, and toward the left Aries is setting.

Above Aries is Perseus, now well situated for observation. The brilliancy of the Milky Way in this neighborhood is worth noticing.

Due west is the Bull, above which lies Auriga.

Orion is now approaching the horizon, and is prone toward his "western grave;" above him hang "the starry Gemini."

Toward the left are the two Dogs. The Greater Dog is now setting.

Cor Hydræ is somewhat to the west of south. Above is the Sickle in Leo, due south, and with its handle vertical.

The length of Hydra is now nearly raised above the horizon.

Virgo has risen, and the brilliant Spica is a conspicuous object toward the southeast. Just above the horizon is the second star of the Scales.

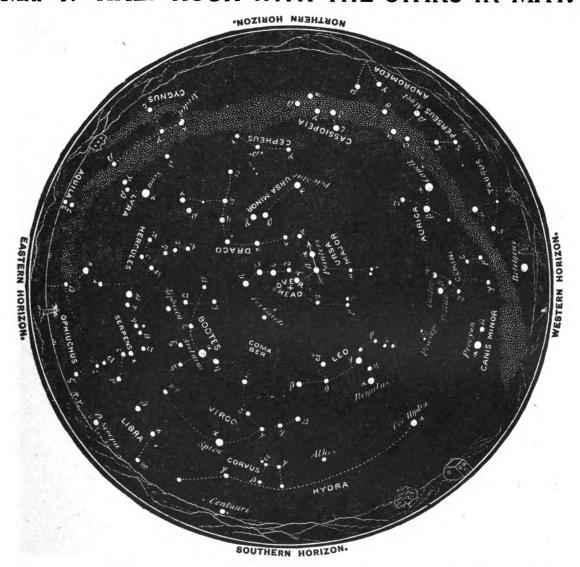
Due east is the Serpent just above the horizon. It must be noticed, however, that a part of this constellation lies on the further side of the as yet unrisen Ophiuchus. Serpens is the only constellation thus divided.

Above Serpens is Boötes, still nearly recumbent. Coma Berenices and Cor Caroli occupy the positions severally accorded to them in the map.

To the left of Serpens is Hercules, or Engonasin, the Kneeler, supposed by many to represent Adam kneeling on the head of the serpent, Draco.

The Lyra has now nearly risen, in the northeast, immediately beneath the Dragon's head.

MAP V.- HALF-HOUR WITH THE STARS IN MAY.



April 20, at 10 o'clock in the evening; April 23, 9:45; April 27, 9:30; May 1, 9:15; May 5, 9:00; May 9, 8:45; May 13, 8:30; May 17, 8:15; May 21, 8:00.

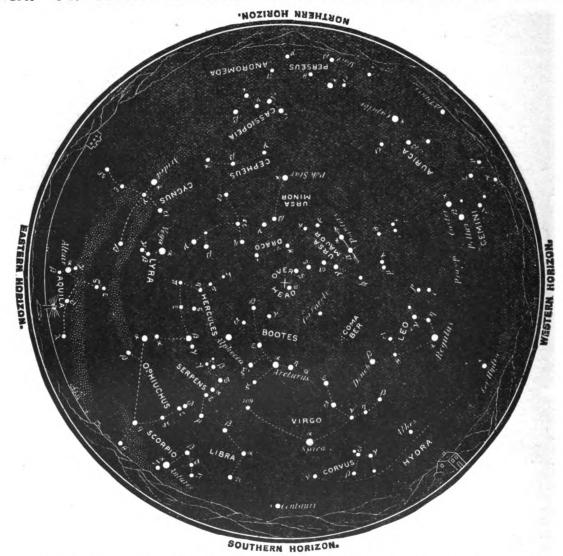
HE Great Bear, still overhead, is found immediately, and the Pointers, which have now crossed over to the west of the zenith, point downward to the pole-star. The Guardians of the Pole are now higher than the pole, toward the right. Below the pole Cephus and Cassiopeia are seen, the former on the right. Andromeda has nearly disappeared; and Perseus has passed the northwest, and is approaching the horizon. The Pleiades are just setting, almost due northwest; and above is Auriga. In the west we see Betelgeux, the sole star belonging to Orion, now visible. Above, and due west, are the twin stars Castor and Pollux. We have, in fact, the configuration described by Tennyson, speaking of the season we are considering:

"It fell on a time of year
When the shining daffodil dies, and the Charioteer
And starry Gemini hang like glorious crowns
Over Orion's grave, low down in the west."

Canis Major has set, but the Lesser Dog is still above the horizon, to the left of and below the Twins. Cor Hydræ is almost exactly toward the southwest, and above is Leo. Due south, the small quadrangle of Corvus is seen, above which is "The Retreat of the Howling Dog," Spica shining conspicuously on the left, toward the

south-southeast. Libra has risen into view, and somewhat to the east of southeast we see the first indications of the interesting southern constellation Scorpio. The vertical row of conspicuous stars formed by a part of Ophiuchus and the body of Serpens is well worth noticing. Above it is Boōtes; to the left of which, and lower down, we see Hercules, inverted. His head is marked by the upper alpha, the lower representing the head of Ophiuchus, the Serpent-holder—typical, some suppose, of the Messiah. The feet of the kneeling Hercules are on the head of Draco, whose body and tail extend upward, between the Guardians of the Pole and the Greater Bear. It is impossible not to recognize, from the configuration of this constellation as now seen, that the ancients looked on the stars which form the Lesser Bear as forming a wing of Draco. Beneath the Dragon's head we see the Lyre. The Swan has now risen above the horizon, and the cross belonging to this constellation is seen in an almost horizontal position. The brilliancy of the Milky Way at this part of its extent is well worth noticing. In the space between the stars a, β and γ Cygni, there is a distinctly-marked black gap in the Milky Way, which has been termed the Northern Coalsack. The extension of the Milky Way toward Cephus should also be noticed.

MAP VI.-HALF-HOUR WITH THE STARS IN JUNE.



May 21, at 10 o'clock in the evening; May 25, 9:45; May 28, 9:30; June 1, 9:15; June 5, 9:00; June 9, 8:45; June 13, 8:30; June 17, 8:15; June 21, 8:00.

HE last star of the Great Bear's tail is now just passing the point overhead. The Pointers are lowermost, and the pole-star is below, toward the right. The Guardians of the Pole are above the pole-star, a little toward the right. Below them is Cassiopeia, the W being now almost in the proper position of the letter. To the left is Perseus, Algol being quite close to the horizon. Further round to the left we see Capella and the other stars of Auriga low down toward the horizon. Not much higher are the twin-stars Castor and Pollux, Castor to the left, the feet of the twins resting on the horizon. It is interesting to compare the splendor of the sky near the horizon, from Gemini in the west-northwest, to Cassiopeia in the north, with the comparative blankness of the part of the sky immediately above these constellations. Præsepe is almost due west, about as high as Castor. Leo has come around so far toward the west that the tip of the Sickle just reaches that point of the compass. Below Regulus is Al Fard, now near setting. Virgo is now at her highest, Spica shining resplendently a little toward the west of south. Below Virgo notice Corvus and Crater, two of the neatest small constellations in the heavens. Due south, just above the horizon, is the head of the southern constellation the Centaur. Above Virgo, and almost due south, we see Boötes, now nearly upright, and presenting a fine figure as with uplifted arm (the stars belonging to the Crown) he chases Ursa Major past the zenith. Returning to the neighborhood of the horizon, observe the brilliant red star Antares, or Cor Scorpionis, lately risen above the

southeastern horizon. Due southeast we see a fine line of brilliant stars formed by ζ , ε and δ Ophiuchi, and ε , a and δ Serpentis. These stars, with η Ophiuchi, and the stars γ and β Serpentis, form a figure much resembling a saber, the cross-handle being formed by two stars not shown in the map. Nearly the whole of the large constellation Ophiuchus (the reader will remember how Milton says of a comet, that it "fired the length of Ophiuchus large") has now risen above the horizon. It requires some imagination to recognize in it the figure of a man holding a serpent; but this is not the only instance in which the stars of a constellation bear little resemblance to the figure from which the constellation is named. Hercules is now nearly due east and high above the horizon. Toward the same quarter, but quite close to the horizon, Aquila is coming into view, the brilliant Altair scintillating finely. Lyra is above, Vega being almost exactly midway between the horizon and the point overhead. The leading star of Cygnus is toward the northeast, the length of the cross being still nearly horizontal. Between Cygnus and the point overhead is the head of the Dragon, the body and tail winding off toward the left and upward, above the Guardians of the Pole.

On some of the dates named under this map the stars cannot be seen, as it is not yet dark. Therefore use Map VII. two hours later. For instance, on June 21, use Map VII. at ten o'clock, and similarly for the other days at the end of June.

Map VII.—HALF-HOUR WITH THE STARS IN JULY.



June 21, at 10 o'clock in the evening; June 25, 9:45; June 29, 9:30; July 3d, 9:15: July 7, 9:00; July 10, 8:45;

July 14, 8:30; July 18, 8:15; July 22d, 8:00.

HE Great Bear is now descending toward the northwest. The Pointers lie nearly half-way between the point overhead and the horizon, toward the northwest. Thus the pole-star lies to the right of the Pointers. The Guardians of the Pole have passed above the pole toward the left. Below the pole, and close to the horizon, we see Perseus on the right, and Auriga on the left. Capella is scintillating brilliantly, as are Castor and Pollux, which are now setting near the northwest, Pollux lowest and on the left. Presepe is nearly set, and will probably not be visible in the thick air so low down. Leo is approaching the horizon, the Sickle being inclined forward. Above β Leonis notice the Hair of Berenice, half-way between the horizon and the point overhead, and forming an interesting object at this elevation. Boõtes stands now in the northwest, high up above the horizon-Below Arcturus is Spica, and lower still, toward the right, the Crow and Cup are setting. The constellation Scorpio forms a magnificent object in the south. The stars which are assigned to this constellation in maps form but a portion of the original constellation, and it is not difficult to recognize in the arrangement of the stars now lying toward the south a resemblance to the figure of a scorpion with extended claws. Above Scorpio we see the group of stars compared to a saber,

now no longer vertical, but inclined forward. "Ophiuchus large" is fully raised, and reaches from the horizon more than half way to the point overhead, and from the south to the southeast. Below his head (a) we see Sagittarius just rising above the horizon; and above Ophiuchus, Hercules extends right up to the point overhead. The three bright stars in the body of Aquila are now midway between southeast and east; the uppermost is γ , the lowest β , and the middle star is Altair. Above, toward the left, is Lyra, Vega being now raised far toward the point overhead. Below Vega is the head of Cygnus, and the cross of Cygnus is now in a position exactly horizontal, and also exactly midway between the point overhead and the horizon; in other words, each of the stars a, γ and β Cygni now has an elevation of forty-five degrees above the horizon. Below Cygnus, Pegasus is rising into view, three stars of the square being visible, and the nose of the horse (ϵ) due east. Andromeda has just risen above the northeastern horizon. Above her feet we see Cassiopeia, the W still in its natural position. Draco forms a curve round and above the Guardians of the Pole, his head being to the east, and close to the point overhead.

On the last three dates mentioned under this map it will be better to use Map VIII., two hours later.

MAP VIII.-HALF-HOUR WITH THE STARS IN AUGUST.



July 22, at 10 o'clock in the evening; July 26, 9:45; July 30, 9:30; Aug. 3, 9:15; Aug. 7, 9:00; Aug. 11, 8:45;
Aug. 15, 8:30; Aug. 19, 8:15; Aug. 23, 8:00.

the Great Bear is now in the northwest, and midway between the point overhead and the horizon, the pole to the right of the Pointers. The Guardians of the Pole have swung round above the pole-star toward the north-northwest. Below the pole is the head of the Charioteer, Capella still low down toward the right of the north point. Above the Lesser Bear is the body of Draco, his head almost exactly overhead. Below the Great Bear, Leo is setting, only a part of the Sickle being visible. Coma Berenices lies immediately above the tip of the Lion's tail (β) , and above Coma again is Cor Caroli and the poor constellation, the Hunting Dogs, of which Cor Caroli is the leading brilliant. Virgo is setting. To the left Spica is scintillating brilliantly, close to the horizon in the west-southwest. Boötes is now midway between the horizon and the point overhead, and inclining forward, his head and shoulders due west, his feet above Spica. In the southwest is Libra, close to the horizon. Above is Serpens, reaching to a point midway between the horizon and the point overhead. Between the head of the serpent (γ, β) and the zenith we see Hercules, reaching round from the south to the west, and still inverted. In fact Hercules is never seen upright in our latitudes. This kneeling figure must have been conceived by astronomers living in other latitudes, and at a time when the pole was very differently situated. Ophiuchus has now passed the south toward south-southwest, and Antares and the other stars of Scorpio lie toward the same quarter low down toward the

horizon. It is interesting to notice the portion of the Milky Way now brought into view toward the south. We see here the commencement of that part of the Milky Way which, by its superior brilliancy, as seen in southern latitudes, indicates the greater proximity of the galaxy in that direction. It is also interesting to notice how singularly the two branches of the Milky Way vary in splendor along the southern half of the semi-circle now above the horizon. Lyra is high up toward the point overhead, the stars β and γ forming a pendant to the brilliant Vega. Below them, toward the southeast, and about half way between the horizon and the point overhead, is Altair, γ and β Aquilæ lying almost in a vertical line, one above, the other below Altair. Low down toward the horizon are the zodiacal constellations Sagittarius (extending from south to south-southeast), Capricornus (extending past the southeastern quarter) and Aquarius, reaching nearly to the east. It is, indeed, noteworthy that from the northwest right round through south to the northeast, the horizon is occupied by zodiacal constella-tions, no less than eight of which are thus situated—though Pisces, having no conspicuous stars, is not marked in, in Map VIII. Cygnus is high up toward the east, and below Arided is the square of Pegasus. The left-hand start of the square is Alpherat, and Andromeda lies in a nearly horizontal position, her feet being toward the northeast. Above these is Cassiopeia, the right hand side of the W beginning to be the highest. Below, and close to the horizon, is Perseus.

MAP IX.—HALF-HOUR WITH THE STARS IN SEPTEMBER.



Aug. 23, at 10 o'clock in the evening; Aug. 27, 9:45; Aug. 31, 9:30; Sept. 4, 9:15; Sept. 8, 9:00; Sept. 12, 8:45; Sept. 15, 8:30; Sept. 19, 8:15; Sept. 23, 8:00.

HE Great Bear is now passing toward the north, and getting low down. The pointers are to the right of the seven stars, and the pole-star lies above them, and toward the right. The Guardians of the Pole are to the left of, and scarcely higher than the pole-star. The Dragon passes between the two Bears toward the west, his head being still high above the horizon. Coma Berenices is setting between northwest and west-northwest. Boötes has passed the west, and forms a fine figure above that part of the horizon. The Northern Crown, with the brilliant Alphecca, is due west, about midway between the horizon and the point overhead.

Above the Crown are the feet of Hercules. His head and shoulders are to the left of the Crown, and at about the same height above the horizon. The Serpent lies between the shoulders of Hercules and the horizon. On the left is "Ophiuchus large," toward the southwest, and extending from the horizon halfway to the point overhead. The brilliant Vera lies toward the same quarter, but much higher up.

iant Vega lies toward the same quarter, but much higher up.

Aquila is due south, Altair being about midway between the horizon and the point overhead. Close to the horizon, and extending from

south-southwest to south, is Sagittarius. Next to him, on the left, is Capricornus, and next to that again is Aquarius, now covering a wide range of sky between Capricornus and Pegasus. In the zenith is Cygnus, the upright and cross-rod of the cross being now about equally inclined to the horizon. The square of Pegasus has passed the east, the left-hand star being still Alpherat, and Andromeda still in a horizontal position. Cassiopeia is in the northeast, and raised somewhat more than halfway from the horizon toward the point overhead.

Below Andromeda, Aries has fully risen; and toward the northeast, low down, we see the Pleiades again. Between them and Cassiopeia lies Perseus. It is well to notice this constellation while in its present position, and also the richness of the background of milky light in this neighborhood. The whole of this part of the heavens is full of beauty, and contrasts strangely with the barren region close by, between the north point of the horizon and Cassiopeia.

north point of the horizon and Cassiopeia.

Auriga is rising above the north-northeast horizon, and Capella is beginning to scintillate less brilliantly as it rises above the denser strata of the atmosphere.

MAP X.- HALF-HOUR WITH THE STARS IN OCTOBER.



Sept. 23, at 10 o'clock in the evening; Sept. 26, 9:45; Sept. 30, 9:30; Oct. 4, 9:15; Oct. 8, 9:00; Oct. 11, 8:45; Oct. 15, 8:30; Oct. 19, 8:15; Oct. 23, 8;00.

HE Great Bear is low down toward the north-northwest; the polestar lying above, and very little to the right of the Pointers. The Guardians of the Pole are now below the pole-star, on the left, and almost exactly midway between the horizon and the point overhead. The Dragon passes between the two Bears, and round to the left of the Guardians of the Pole. His head is toward the west-northwest, high up above the horizon. Cor Caroli is approaching the horizon, and Boötes is already half set. So, also, is Serpens in the west. But Corona is still well raised above the north-northwest horizon. Hercules is in the west, but extends over a wide range, from side to side. Vega is due west, and high above the horizon, the stars β and γ lying to the left, at about the same height. Also at about the same height is the star β of the Swan, and the Cross of Cygnus is now upright again, Arided lying near the point overhead. Altair is in the southwest, raised somewhat less than halfway from the horizon toward the point overhead. Below Aquila is Sagittarius. Next, to the left and somewhat higher, is Capricornus, and, next, Aquarius, in the south. A noted star, Fomalhaut, the most southerly first-magnitude star ever seen in this country, is now visible toward the east of south, and very low down. It is the chief

star of the Southern Fish, a constellation not to be confounded with the southermost of the Fishes. The Square of Pegasus is toward the southeast, raised high above the horizon. Alpherat is still the most easterly star of the square, and Andromeda is still horizontal, though now well raised above the eastern horizon. The Sea Monster, Cetus, covers a wide range of the sky, low down, toward the east-southeastern horizon. The limits of the constellation, indeed, as defined by astronomers, extend from the east to the south-southeast. Aries is in the east, about half-way between Andromeda and the horizon. Taurus has now risen in the east-northeast, Aldeboran, the brightest red star in the heavens, scintillating brilliantly low down toward the horizon. Above the head and horns of Taurus is Perseus, and immediately above Perseus, raised three-quarters of the way from the horizon toward the point overhead, is Cassiopeia, the W now almost on end, and having the points toward the right. Auriga has now risen in the northeast, Capella being almost exactly in that quarter, and raised somewhat more than one-fourth of the way toward the point overhead. Castor is just rising between the northeast and the north-northeast.

Map XI.—HALF-HOUR WITH THE STARS IN NOVEMBER.

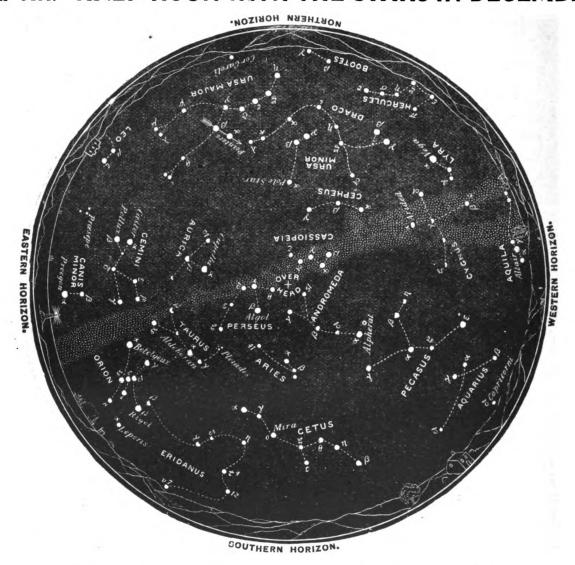


Oct. 23, at 10 o'clock in the evening; Oct. 26, 9:45; Oct. 30, 9:30; Nov. 3, 9:15; Nov. 7, 9:00; Nov. 10, 8:45; Nov. 14, 8:30; Nov. 18, 8:15; Nov. 22, 8:00.

HE Great Bear is now due north, and at its lowest, the pole-star lying above, and somewhat to the left of the Pointers. The Guardians of the Pole are below and to the left of the pole star, and immediately above the last star of the Great Bear's tail. The head of Draco has now come to the northwest, and is not nearly so high above the horizon as it was a month ago. Due northwest, and almost on the horizon, is Alphecca, the other stars of the Crown being also very close to the horizon. Between Alphecca and the Great Bear the head and shoulders of Boötes are still to be seen above the horizon. In the west-northwest, close to the horizon, are the heads of the two giant constellation figures Hercules and Ophiuchus. The left-hand and brighter a marks the place of the head of the Serpent-bearer, who is now passing below the horizon. The whole of Hercules, on the other hand, is still above the horizon, and, as usual, inverted. Above is Lyra, and Cygnus now occupies a conspicuous position in the west, midway between the horizon and the point overhead, the cross being still nearly vertical. Aquila, the Eagle, is approaching the western horizon, Altair being in the west-southwest, and raised almost exactly one-fourth of the way toward the point overhead. Above Altair, and toward the left, is an interesting little constellation not marked in the map—Delphinus. It will be recognized at once,

though consisting only of small stars, by the resemblance it presents to the figure of a dolphin leaping from the sea. Capricornus is in the southwest, low down, and next to it is Aquarius, covering a wide range of the sky, and reaching almost to the south. Below is Fomalhaut, nearing the south-southwest horizon. The square of Pegasus is now at its highest. Andromeda is still horizontal; in fact, it is a peculiarity of this constellation that throughout its rise, from near the horizon to near the point overhead, the star Alpherat is always very nearly on the same level with a portion of the line joining the two stars γ and 51, which mark the feet of Andromeda. This is true from the epoch indicated in Map VII. to that indicated in Map XI., or through one-third part of the constellation's course round the pole. Cetus is now well raised above the south-southeast horizon. The star α (Menkar) lies to the east of southeast. Immediately above this star is the head of Aries; below it is Eridanus, now rising in the southeast. Orion also is rising, the three stars forming his belt almost upright toward the east. Above them is Aldeboran, and above that star are the Pleiades. Near the point overhead is Cassiopeia; below Cassiopeia, and somewhat to the right, is Perseus; below Perseus, and to the left, is Auriga, with the brilliant Capella; and below Auriga the twin stars Castor and Pollux have risen, Castor vertically above Pollux.

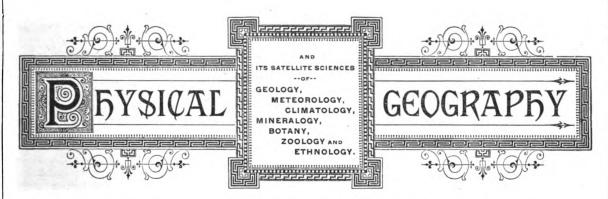
MAP XII.-HALF-HOUR WITH THE STARS IN DECEMBER.



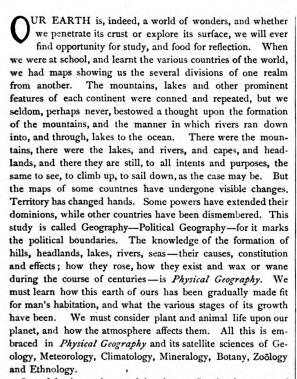
Nov. 22, at 10 o'clock in the evening; Nov. 25, 9:45; Nov. 29, 9:30; Dec. 3, 9:15; Dec. 7, 9:00; Dec. 10, 8:45; Dec. 14, 8:30; Dec. 17, 8:15; Dec. 21, 8:00.

down. The Pointers are toward the north-northeast, and the pole-star is above, and toward the left. The Guardians of the Pole hang below the pole-star, slightly toward the left. Draco hangs below the Lesser Bear, extending around from right to left, where his body bends downward again. The head of Draco lies between northwest and north-northwest, raised almost exactly one-fourth of the way from the horizon toward the point overhead. Toward the left, slightly lower, is Vega, the companion stars β and γ lying on the left. Cygnus is in the west-northwest, the cross again upright, and Arided raised somewhat less than half-way from the horizon toward the point overhead. Above, very near the point overhead, is Cassiopeia. Low down, and somewhat to the right of the western point of the horizon, is Altair, with his companion stars β and γ , the former on his left, the latter on his right. The square of Pegasus is still high above the horizon, toward the west-southwest. The highest star of the square is Alpherat, and Andromeda now extends from this point to the point overhead, close to which are both her feet. Aquarius is setting in the

west-southwest. Cetus is due south, well raised above the horizon. The space below Cetus, quite bare of conspicuous stars, belongs to the southern constellations Sculptor and Fornax. Above Cetus is Aries, the star α due south, and raised nearly three-fourths of the way from the horizon toward the point overhead. Above the south-southeast horizon is Eridanus, covering a large space of the sky. Otion has now well risen above the southeastern horizon somewhat easterly. Above him is Taurus, the Pleiades now shining very conspicuously. Near the point overhead is Perseus, the star α being toward the east, and Algol toward the southeast. Below Perseus, somewhat to the left, is Auriga; and below the brilliant Capella are to be seen the twin-stars Castor and Pollux, the constellation Gemini being now in a horizontal position, the feet of the twins (μ and γ) resting on the Milky Way. Procyon has just risen above the eastern horizon. Toward the northeast the sky is almost blank. But low down may be seen two stars belonging to the Sickle in Leo, now rising above the northeastern horizon.



OUR GLOBE, AS IT WAS AND AS IT IS; WEATHER AND CLIMATE; ANIMAL AND VEGETABLE LIFE.



Our globe is nearly round in shape. In the language of science, it is an oblate spheroid—that is, a body having the polar diameter shorter than the equatorial. That our earth is round is evident from the following facts:

1. Men have circumnavigated it—that is, they have sailed in one continuous direction as nearly as the configuration of the land would permit, and have arrived at the point of starting.

- 2. When we stand on the shore, and observe a ship coming in from the sea, we notice that the tops of the masts are seen first, and lastly the hull, or body. The hull is hidden by the curved surface of the water. In traveling across extensive plains, in like manner, the tops of mountains are seen before their bases.
- 3. An eclipse of the moon is caused by the shadow of the earth falling on the moon. This shadow is always circular. A spherical body is the only one which will cast a circular shadow in any position in which it may be placed.
- 4. The north star rises as we travel north, and declines as we go south, till we reach the equator, when it disappears.

For the purpose of locating the different portions of the earth's surface, imaginary circles are employed. Every circle, whether great or small, is divided into 360 equal parts, called degrees.

A great circle divides the earth's surface into two equal parts, or hemispheres; a small circle, into two unequal parts.

The equator is a great circle equally distant from the poles. A meridian circle is any great circle passing through the poles. A meridian is half of a meridian circle, extending from pole to pole.

The points on the earth's surface at the ends of the axis are called *poles*. The one which is nearest a certain fixed star called the north star, is the north pole; the other is the south pole.

The circumference of the earth is the distance around it, and measures about 25,000 miles.

The diameter of the earth is a straight line passing through its center, and terminating in opposite points of its surface. The equatorial diameter extends from any point on the equator to the opposite point, and is about 7,925½ miles long. The polar diameter extends from pole to pole, and thus coincides with its axis. Its length in miles is 7,899. The difference of length, about 26½ miles, is owing to the flattening of the earth, which brings each pole 13¼ miles nearer the center than are the points that lie on the equator.

The *latitude* of a place is its distance from the equator, measured on its own meridian. Latitude is either north or south, and is reckoned in degrees (from o to 90), minutes and seconds. The latitude of places on the equator is o.

The longitude of a place is its distance from some given meridian, measured on its own parallel. Longitude is either east or west, and is reckoned in degrees (from o to 180), minutes and seconds. The given meridian from which longitude is reckoned is called the first meridian.

Every degree of latitude is equal to about 691/4 statute miles.

A degree of longitude, at the equator, is also about 69¼ statute miles; but, north or south of the equator, it becomes less and less as the meridians approach each other, and at the poles, where they meet, it is nothing.

The polar circles are the two parallels 23½ degrees from each pole. The northern polar circle is called the Arctic Circle; the southern, the Antarctic Circle.

The tropics are the two parallels 23½ degrees north and 23½ degrees south of the equator. The northern tropic is called the Tropic of Cancer; the southern, the Tropic of Capricorn.

Zones are belts of the earth, bounded by the polar circles

and the tropics. The North Frigid Zone, which lies north of the Arctic Circle, is 23½ degrees wide. The North Temperate, which lies between the Arctic Circle and the Tropic of Cancer, is 43 degrees wide. The Torrid, which lies between the tropics, is 47 degrees wide. The South Temperate, which lies between the Tropic of Capricorn and the Antarctic Circle, is 43 degrees wide. The South Frigid, which lies south of the Antarctic Circle, is 23½ degrees wide.

The circle of illumination is the great circle which separates the light side of the earth from the dark.

Day and Night.

The earth has two constant motions: (1) its daily motion, or rotation on its axis (its shorter diameter), from west to east; (2) its yearly motion, or movement in a nearly circular path (called its orbit) around the sun. The length of time the earth is turning on its axis is called a day. Every part of the earth's surface being successively carried into light and shade, the daily rotation causes the phenomena of day and night. The length of time the earth is in passing around the sun is called a year.

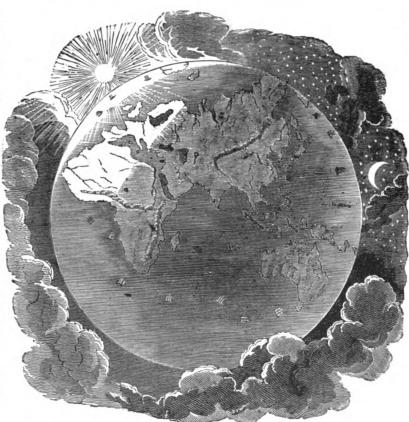
It turns on its own axis in the same time about 365 ¼ times, hence there are 365 ¼ days in a year.

As the earth revolves from west to east, the sun will appear to travel from east to west.

At the equator thedays and nights are always twelve hours long; the farther a point lies from the equator, the longer are its longest day and its longest night.

At the poles the year is made up of but one day and one night, each lasting six months.

All places in about 66½ degrees of latitude, north or south, have one day in the year twenty-four hours long, and one night of an equal length.



DAY AND NIGHT .- EASTERN HEMISPHERE.

The Change of Seasons

Is produced by the earth's revolution around the sun, in connection with the fact that its axis is constantly inclined to the plane of the ecliptic, and always points in the same direction.

The earth's axis is constantly inclined 23½ degrees to the plane of its orbit. If this were not the case there would be no change of seasons; the circle of illumination would always be identical with some meridian circle. The sun's rays, reaching from pole to pole, would fall on each point of the earth's

surface at the same angle throughout the year, and days and nights would everywhere be of twelve hours' duration. (See Astronomy.)

GEOLOGY

Tells us about the external surface of the earth, its stones and rocks, and how they were formed, and generally something about the conformation of the crust of the earth and its history. As has been well said, "Geology is the Physical Geography of the past."

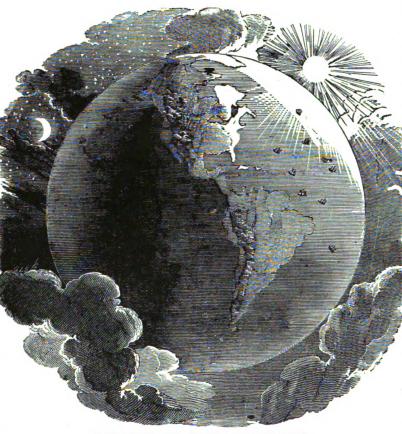
"Everything must have a beginning," and the earth must have had a beginning, although the actual manner of the physical creation of our planet is a disputed fact.

We are not about to discuss the religious side of the question, although we should undoubtedly find that Biblical teaching and Geology run side by side toward the same end, and the testimony of the earth and sky bears witness to the divine hand that created the universe, which we can trace back to the dim and distant ages when "the earth was without form, and void; and darkness was upon the face of the deep."

rule the night: and he made the stars also." In the fifth era were created fishes and birds—"great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind." In the sixth era appeared the beasts of the earth, and finally man, for whom the earth had now become a fit abode.

The earth appears at one time to have been an intensely heated molten ball, surrounded by a hot atmosphere filled with vapors and gases. By degrees the outer part of this molten mass gave its heat into space, and portions of its matter became solid

as they cooled. As the cooling proceeded, these solid masses grew larger, and at last blended in a thin crust. The vapor in the atmosphere was next condensed, and thus was formed the great primeval ocean. covering the whole globe. From time to time this mighty ocean would break through weak places in the crust, and pour on the seething mass below. Great volumes of steam would then be formed, which would rend the solid barriers above it, and force through the openings thus made floods of melted rock, to flow over the earth, and, in course of time cool down into a new mineral deposit.



DAY AND NIGHT,-WESTERN HEMISPHERE.

The Six Eras of Creation.

It seems to be established that each of the six days of Creation was an era, a period, not of twenty-four hours, but of centuries, during which great changes and new appearances took place. The first of these eras was marked by the creation of light; the second, by the separation of vapors from the waters; the third, by the separation of land from water, and the appearance of grass, herb, fruit and tree. On the fourth day, or rather in the fourth era, "God made two great lights in the firmament of the heaven; the greater light to rule the day, and the lesser light to

In the lapse of ages, innumerable changes of this kind occurred on the surface. Continents were upheaved, and the waters finally subsided into the hollow places, carrying with them and depositing a sediment of rocky matter. The crust gradually became thicker, the surface assumed a form comparatively permanent, and only occasional eruptions showed that fiery heat and waves of molten rock still raged within.

A succession of plants, marking distinct eras of vegetable life, were then called into being, and different orders of animals were created—living and preying upon each other, and dying, as they do now. The most simple forms of animal life appeared first; then those of a higher organism; and finally man, created in the image of God.

If any one will take the pains to evaporate any saline solution in a capsule till it is about to crystallize, and observe attentively the pellicle of salt as it forms on the surface, an idea may be formed of our globe's physical history. First, a partial film will show itself in a few places, floating about and joining with others; then, when nearly the whole surface is coated, it will break up in some places and sink into the liquid beneath; another pellicle will form and join with the remains of the first, and as this thickens it will push up ridges and inequalities of the surface from openings and fissures in which little jets of steam and fluid will escape. These little ridges are chains of mountains; the little jets of steam, those volcanic eruptions which were at one period so frequent; the surface of the capsule is the surface of the earth, and the five minutes which the observer has contemplated it, a million years.

The principal agents in producing the constant changes going on within and upon our globe are the winds, the ocean, the rivers, and the forces at work within the earth. Land and water are to this day fighting for the mastery, as they did when the condensation of the vapors surrounding the earth formed the seas and oceans, leaving only the higher portions of the earth's mass exposed, and when the clearing up of the dense, dark clouds for the first time let in upon the earth's surface the glorious and vivifying rays of the sun, corresponding to the earliest record in the Bible of the acts of Creation: "And God said, let there be light: and there was light."

But, perhaps, some reader may not think that the land and water of our earth are thus engaged. A very few minutes' reflection, however, will suffice to confirm the assertion. Look at the lofty crags in the Alps, for instance. What has shattered those peaks, and sent the masses toppling down in stone avalanches to the lower slopes, and then into the valleys?—Water. Water has been in the crevices, and was frozen there; in freezing it expanded and loosened the crags, which, forced asunder, gave an opening to more snow and ice, and so this powerful leverage, aided by the wind and storm, is disintegrating our mountains.

It is the same by the seashore; the cliffs are wearing away, and the sea approaches; at other places the sea recedes from the land, as coral formation and embryo chalk cliffs are rising under the surface of the ocean. Lakes dry up, and the meadow or farm arises on the site, while other old spots are submerged.

The rocky wall over which the Niagara River precipitates itself, is constantly wearing away under the impact of 700,000 tons of water every minute; so that the falls are gradually receding toward Lake Erie, at a rate variously estimated at from I foot to 1 1/4 yards every year. They were once, and that, too, within the present geological period, at least four miles nearer to Lake Ontario than they now are.

It is computed that the Mississippi carries annually into the Gulf of Mexico 400,000,000 tons of earthy matter—enough to cover an area of ten square miles to the depth of twenty-five feet. The winds transport loose sand, particularly on coasts exposed to their fury, and, driving it inland, heap it up in parallel ridges. Such sand-hills, or *downs*, as they are called, are very common near the ocean; on the coast of England they have buried houses and farms.

Rivers are constantly changing the earth's surface by wearing passages through the strata over which they flow, and by bearing incalculable quantities of earthy matter to the sea, to form new deposits at their mouths.

No rest, no change of idea, but ever changing in physical appearance, Nature goes on her wondrous way, working now as steadily, as harmoniously and as surely as she did before time was, and as she will continue to do when time shall be no more. And all the works of Nature, ever changing, yet ever the same, are recorded by the same Power that governs them. "All things," says Emerson, "are engaged in writing their history. The planet, the pebble, goes attended by its shadow. The rolling rock leaves its scratches on the mountain; the river, its channel in the soil; the animal, its bones in the stratum; the fern and leaf, their modest epitaph in the coal. The falling drop makes its sculpture in the sand or the stone. Not a foot steps into the snow or along the ground, but prints, in characters more or less lasting, a map of its march. Every act of the man inscribes itself in the memories of his fellows, and in his own manners and face. The air is full of sounds, the sky of tokens, the ground is all memoranda and signatures, and every object covered over with hints which speak to the intelligent."

Rocks.

We must entirely put away from our minds the idea that the earth we live on was created at once, or as it appeared to the first human beings. Our planet was prepared for man by degrees during millions of years. Therefore, supposing (as is supposed) that the earth came from the sun, we have all the material of the globe in a fused state. As the earth cooled, rocks were formed by pressure, and then water came, and now we can read "books in the running brooks, and sermons in stones," at our leisure.

A rock, in geology, is any natural formation of earthy or stony material, whether in the form of sand, gravel, clay, mold, or a compacted mass. In regard to their form and position, the rock masses of the earth's crust may be divided into three classes—stratified rocks, unstratified rocks, and veins.

Stratified rocks are those that lie in layers, or strata. They compose the greater part of the land surface of the earth, forming not only vast plains, but whole mountain systems. To this class belong slate, sandstone, limestone, marl, chalk, etc.

Unstratified rocks are irregular masses, formed, not by the deposit of sediment in beds or layers, but by the gradual cooling of melted matter. They embrace igneous and metamorphic rocks.

Igneous rocks owe their orign to the action of heat, as the stratified rocks do to that of water. Basalt may be mentioned as an example of the igneous rocks. In some regions it constitutes immense beds, and in others forms gigantic columns, as regular as if wrought by art.

Metamorphic rocks are such as were originally stratified, but afterward underwent a change of structure through the agency of heat or chemical action.

Veins are rock-matter filling the cracks of fissures of other rocks. They vary greatly in size and extent. They may be regular or irregular in form, isolated or united in a complex network.

The term drift is employed to designate the immense deposits of sand, gravel, clay and boulders, or loose rocks, which exist over a great part of the American continent. The origin of this material is referred to "Glacial Period," when, from some cause, a change of climate caused immense masses of ice, either in the form of icebergs or glaciers, to plow their way over the continent, bringing the material from the Archæan beds and depositing it over the existing formations, and at the same time scoring and grooving the underlying rocks.

The Geologic Ages.

There are seven great geologic ages, or divisions of time, known as the Azoic, the Silurian, the Devonian, the Carboniferous, the Reptilian, the Mammalian, and the Age of Man. Our knowledge of the plants and animals of the ages preceding the creation of man is derived from their remains dug out of the earth, and called fossils.

The Azoic Age is the era, as its name implies, when there was no life, either vegetable or animal, on the globe. The crystal-line minerals and all the igneous rocks date back to this age, and hence they are destitute of fossils.

During the Silurian Age, the second in atiquity, there was no terrestrial life; but mollusks—animals with soft, fleshy bodies, without any internal skeleton, like the oyster and the snail—abounded in the waters. The oldest sandstone and limestone belong to this period. Its plant-fossils are sea-weeds.

The Devonian Age was the age of fishes, remarkable for their thick, bony scales. The sea also teemed with shells, corals and sea-weed; while the land, though yet limited in extent, began to be covered with vegetation. Insects, the earliest of terrestrial animals, now first appeared.

The Carboniferous Age, or age of coal, is fourth. From colossal tree ferns, leaves and branches, deposited in successive centuries, were formed, by gradual decomposition under water, those vast coal-beds on which the industrial pursuits of the present day so largely depend. The animals of this age consisted mainly of insects of various kinds; and inferior tribes of reptiles.

The Reptilian Age was marked by the great number, variety and size of its reptiles, the appearance and habits of which are known from the remains, found buried in the rocks of this period. The rocks of this age are the freestones, extensively used for building, sandstone formations, intersected with ridges of trap of igneous origin, limestone and gypsum, laminated and plastic clays, and chalk-beds, containing layers of flint.

The Mammalian Age was the sixth. The reptiles now dwindled in size and diminished in number, being succeeded by quadrupeds, some of which were much larger than any modern species. The deinotherium, mastodon, megatherium and fossil

elephant were among the gigantic animals of this era, while the plants resembled those of the present time, palms, oaks, maples, magnolias, etc., being found in the forests.

The Age of Man is the last of the seven geologic ages. The huge monsters that gave the preceding period its peculiar character became extinct, and were replaced by smaller animals—those we see around. Man was created, and invested with dominion over the earth. This is the "era of the finished world—the era, also, of man's progress and preparation for another and a higher life."

THE EARTH'S SURFACE.

The earth's surface of an area of about 197,000,000 square miles, of which only about one-fourth is land.

Lowlands are tracts, either level or diversified by hill and vale, not elevated more than 1,000 feet above sea-level. Deserts are extensive tracts destitute of water, and, consequently, of vegetation and animal life.

Silvas are forest plains. Plains that produce grass, but not trees, are known in North America as prairies; in South America as llanos and pampas; in Asia and Southeastern Europe as steppes.

The desert of Sahara, as far as known, consists partly of table-lands and partly of low plains. It is interspersed with oases, or fertile spots, which are generally lower than the surrounding country; some of these are of considerable extent and well populated.

A mountain is an elvation of land exceeding 2,000 feet in height. A hill is less than 2,000 feet in height.

A mountain-chain is a long, elevated ridge, or several mountains extending in a line.

Mountains are of great use to man. They attract the clouds, condense their moisture, and store up in reservoirs the water received from them, sending it forth again in streams, from thousands of springs, to fertilize the soil. They increase the surface of the earth, giving variety to its vegetable productions. They protect the adjacent countries from cold and piercing winds, and thus exert a favorable influence on their climate.

An avalanche is a large mass of snow, ice and earth, sliding or rolling down a mountain. A water-shed is the mountain-chain or ridge of land which separates one basin from another, and from which the rivers flow.

A mountain pass is an elevated road crossing a mountainchain through a natural opening or depression.

Glaciers are immense masses of ice formed by the accumulated snows upon the mountain tops. They fill in vast valleys, and have an onward motion throughout like a liquid or semiliquid body, Their course down the slopes is very slow, but, like rivers, they flow faster in the middle than at the bottom and sides. The lower extremities are constantly melting, forming torrents and mountain streams, while the upper parts are fed by the snows. Rocks of immense size are torn off and carried down by glaciers. They occur in the greatest numbers in the Alps. When a glacier reaches the ocean large fragments are broken off and float away as icebergs.

VOLCANIC PHENOMENA.

That the interior of the earth has a high temperature, independent of the influence of the sun's rays, seems to be proven by many phenomena. The majority of scientists maintain that the center of the earth is a mass of molten material, and that consequently the temperature increases the nearer this center is approached. This theory seems to accord with the facts in relation to hot springs, artesian wells, volcanoes, etc., although it is maintained by some that these phenomena may be caused entirely by local chemical changes going on within the earth's crust.

Hot Springs.

Thermal or hot springs are most common in mountainous regions, and especially where the earth's crust is most broken and disturbed. Springs of every kind are formed by the rain or melted snow sinking into the earth and issuing from it again at a lower level. The fact that the water is sometimes hot, shows that it must have come in contact with heated rock material within the crust of the earth.

They are found of every grade of temperature from that of slightly above the surrounding atmosphere, to the boiling point. They are found in all parts of the world, the most numerous, perhaps, in Europe.

Geysers

Are intermittent, spouting, hot springs, and have a temperature at the boiling point. They are found in Iceland, New Zealand, and in the "National Park" at the head waters of the Yellowstone River in the Rocky Mountains.

The most celebrated is the Great Geyser of Iceland. It consists of an immense well, or funnel, 10 feet wide at its mouth, and about 70 feet deep, surmounted at the surface with a basin 65 feet in diameter and 7 feet deep, formed by the deposit of mineral matter from the water. At intervals it sends up a column of water and steam to the height of 100 feet. More remarkable even than the geysers of Iceland are some that are found in the "National Park." One, the Giantess, throws water to the height of 200 feet. Grasshoppers and other insects, and pieces of wood which fall into the waters, soon become incrusted with quartz, which is held in solution by the water, thus permanently petrifying them.

Volcanoes.

A volcano is a mountain, or opening in the earth's crust, through which issue fire, smoke, ashes, lava, steam, etc. Volcanoes may be distinguished as extinct and active. Extinct volcanoes are such as are now at rest, but were subject to eruptions in former ages, as is shown by their form and structure, and the presence of craters. Active volcanoes are such as are either in a constant state of eruption, or have eruptions from time to time, with intervals of rest.

Volcanoes throw out an enormous amount of material. Whole islands and portions of continents have been formed by volcanic action. Iceland is an example of a volcanic island.

The lava, when it first issues from a volcano, is somewhat like melted iron running from a furnace, but soon cools on the surface and forms a black, porous crust. Sometimes the streams are so thick that the interior remains hot for twenty years.

A terrific eruption of Mt. Vesuvius, A.D. 79, destroyed the flourishing cities of Pompeii, Herculaneum and Stabiae, and covered them with ashes and cinders to the depth of fifteen feet.

About sixty eruptions of Mt. Etna are recorded. In 1669, a stream of lava from this mountain overflowed the ramparts of Catania, sixty feet in height, and destroyed a portion of the city. In 1832, several craters opened in the sides of the mountain, and a stream of lava eighteen miles long, one mile broad, and thirty feet deep, poured over the adjacent fields.

In 1835, the terrible eruption of Conseguina occurred. It lasted three days, during which the light of the sun was obscured over half of Central America, and more than 40,000 square miles are said to have been covered with dust, ashes and lava.

Fields of Fire.

In some localities an inflammable gas issues from openings in the ground. This gas frequently becomes ignited and burns for some time. There is a region of this kind on the western shore of the Caspian Sea. This gas is supposed to be from the decomposition of vegetable matter by internal heat.

Earthquakes.

The second class of volcanic phenomena are earthquakes. These consist of vibrations or tremblings of the earth's crust, and are caused by movements in the fluid interior; but how these movements are produced, is as yet unknown. It is estimated that since the Creation earthquakes have destroyed thirteen million human beings. Scientists assert that not less than twelve shocks of earthquake are experienced in the United States daily, although, of course, they are but slight, and individually unworthy of mention.

An earthquake is generally preceded by unmistakable signs. The electrical condition of the air seems to be changed perceptibly to both men and beasts—the former experiencing oppression and dizziness; the latter uttering cries of distress, running wildly about, or otherwise manifesting uneasiness. The atmosphere is unnaturally still and hazy, and the sun seen through it looks like a ball of fire.

The year 1868 was remarkable for the number and severity of its earthquakes. One of these occurred in the Sandwich Islands, destroying whole villages and many lives. One of the most terrible earthquakes on record occurred in South America, in August of that year. Its center of activity seems to have been at Arica, a seaport of Peru, which was completely destroyed, with two hundred of its inhabitants. The shocks extended throughout the Andes, from the United States of Colombia to Chili, and towns and cities were laid in ruins. It is estimated that more than fifty thousand persons lost their lives by this catastrophe.

The great earthquake of Lisbon occurred November 1, 1755. A rumbling sound beneath the surface was immediately followed by three shocks, so close together that they seemed but one, which threw down the principal part of the city; the sea

retired, leaving the bar dry, and instantly returned in a wave forty feet high, engulfing a great marble quay, to which multitudes had fled to escape the falling buildings. In the space of six minutes, thirty-five thousand persons perished.

The most remarkable earthquake that has occurred in the United States is that of New Madrid, on the Mississippi, in 1811-12. For several months there was an incessant quaking of the ground, which, for a distance of three hundred miles, rose and sank in undulations. The most of the town was submerged.

Readers will remember the earthquake which visited Java in 1882, and also that in Spain the latter part of December, 1884, the shocks continuing into the middle of January, 1885. According to the official record, the number of persons killed in Granada was 695, while 1,480 were injured.

The crust of the earth is in some places gradually and slowly rising; in other places it is sinking. The coast of North America, from Labrador to New Jersey, is slowly rising. The southern part of Greenland is sinking. The Scandinavian peninsula is sinking in the southern part and rising in the northern part. These changes are at the rate of a few feet only in a hundred years. The cause is probably the slow contraction from cooling of the earth's crust.

ISLANDS.

About one-seventeenth of the land surface of our planet is in the form of fragmentary bodies, called *islands*. They may be considered as of two classes: *Continental*, those lying in the near vicinity of the continents, and really forming a part of the continental structure, and *oceanic*, those lying at a distance from the continents, in the midst of the oceans, and differing in structure from the continents.

Oceanic islands are all small and usually occur in groups. Their rock structure is essentially different from that of the continents, and the vegetation and animal life generally peculiar. They may be divided into two classes—volcanic, or high, and the coral, or low.

The volcanic islands are the summits of active or extinct volcanoes projecting above the water. They are usually considerably elevated, with steep shores, and more or less circular in outline. Some have peaks of great height, as one of the Sandwich Islands, with the peak of Hawaii, fourteen thousand feet above the sea level. Many of them have appeared within the history of man.

Coral islands are among the most interesting phenomena of Physical Geography. They owe their existence to the work of colonies of small radiate animals called polyps. The structure of the polyp consists of a cylindrical or sack-like membrane, attached at the bottom to some solid body, and enclosing a second sack, which forms the stomach. At the top is an opening, or mouth, which is surrounded by thread-like organs called tentacles. When expanded, the polyp resembles a flower in form and often in the beauty of its color. The solid coral, which composes the reef, is secreted in the cavity between the outer and inner membranes, as the bones are secreted in the

bodies of higher animals. Coral polyps multiply by eggs, to a certain extent, but chiefly by a process of budding similar to the branching of plants. Thus they grow into vast communities, in which generation succeeds generation, each individual leaving behind, as it dies, its contribution to the reef in the form of a small cell of carbonate of lime. The polyps cannot live out of water, and hence their work must cease at low water mark. Fragments of the coral structure are broken off and thrown upon the top of the mass by the waves, and thus in the course of time a reef, as it is called, is formed, projecting from the water. Upon this reef a vegetation finally springs up from the seeds which the winds and waves bring, and a soil is formed from the pulverized coral, drifted material and decayed vegetation. The reef-building polyps exist only in tropical regions, or where the water never gets below the temperature of 68° F.

WATER.

This all-important and ever-present liquid is a chemical combination of two gases, oxygen and hydrogen—eight parts of the former by weight being combined with one of the latter. When pure, it is destitute of color, taste and smell; but, as it readily absorbs gases and dissolves many solids, it is seldom found in this state.

The large body of water covering by far the greater part of the earth's surface is called the ocean. There is really but one ocean; but the continents partially divide it into five basins, which we distinguish by different names, as the Atlantic, Pacific, Indian, Arctic, and Antarctic Oceans.

The bottom of the ocean is supposed to be diversified with depressions and elevations—with low plains, plateaus and mountains—like the land; hence the depth differs in different parts. Some of the researches lately made by English explorers in regard to deep-sea beds have, however, led to the belief that there are no rough ridges, abrupt chasms nor bare rocks, and that the sea bottom, at great depths, is not affected by currents or streams—even by those of the magnitude of the Gulf Stream—its general appearance rather resembling that of the American prairies, and it is everywhere covered by a kind of mud. The greatest depth shown by soundings is eight and three-quarter miles. The mean depth of the whole body of the ocean is estimated at four miles.

The color of the ocean is a beautiful sky-blue where the depth is great, but in shallow water, yellowish tints, reflected from the bottom, mingle with the blue, and produce a grayish green.

Phosphorescence, one of the most beautiful of marine phenomena, is a brilliant light occasionally observed in the sea during dark nights, particularly in tropical regions. Sometimes the crests of the waves, the spray thrown up by the ship's bow, and the wake she leaves behind, look as if they were on fire. This phenomenon is produced by myriads of animalcules, which have the property of emitting light from their bodies, like fire-flies. A hundred of them have been found in a single drop of sea-water.

The Oceanic Movements.

The great body of the ocean is never at rest; not only is the surface agitated by the winds, but even at great depths the water moves from one region to another.

There are four oceanic movements, viz.: waves, tides, currents and whirlpools.

Waves are ridges of water, produced by the friction of winds on the surface. Tides are alternate risings and fallings of the waters of the ocean.

Tides are produced by the attraction of the moon and sun—principally that of the former—acting with different degrees of force on different parts of the earth. Were the moon the sole cause of the tides, they would always be of the same height; but the sun also exerts an attraction, which, according as it acts with or against that of the moon, increases or diminishes the height of the tide.

The currents are vast streams which traverse the ocean, and keep its waters in perpetual circulation. The principal of these are the Gulf Stream, the Equatorial, Japan, Antarctic and Arctic currents.

The Gulf Stream.

The most important of the oceanic currents is the Gulf Stream, so called from the Gulf of Mexico, out of which it flows into the Atlantic, through the Strait of Florida. It is from twenty-five to one hundred and fifty miles in width, and moves with a velocity of from one and one-half to five miles an hour, the water being much warmer than other parts of the ocean near it. Its color is of a deep indigo blue, strikingly different from the green of the surrounding ocean. A branch of this vast body of warm water, constantly flowing past the western coast of Europe, exerts a most genial influence on the climate. Even many miles in the interior the air is tempered by west winds, warmed by contact with this great stream. The Gulf Stream carries the heat of the Caribbean Sea across the Northern Atlantic to the shores of Scotland and Norway. This tropical river, flowing steadily through the cold water of the ocean, rescues England from the snows of Labrador. Should it, by any chance, break through the Isthmus of Panama, Great Britain would be condemned to eternal glaciers.

The Equatorial Currents.

An equatorial current crosses the Atlantic from the coast of Africa to the neighborhood of Cape St. Roque. It there divides into two branches, a northwesterly and a southwesterly, each of which follows the South American coast—the former making its way into the Caribbean Sea and the Gulf of Mexico.

In the Pacific two equatorial currents are found—one north and the other south of the equator. The former, turning to the northeast near the Loo Choo Islands, continues under the name of the Japan current. The south equatorial current of the Pacific consists of two branches, one of which, striking the Australian coast, divides into a northwesterly and a soutn-westerly branch, as does the Atlantic equatorial current on the coast of Brazil; the other, farther north, turns near the Caroline Islands, and reverses its course, crossing the Pacific again in a

direction nearly due east to South America, under the name of the Equatorial counter-current.

The Japan Current,

In the Pacific, bears a remarkable resemblance to the Gulf Stream in the Atlantic. Impelled by the Pacific equatorial current, it sweeps from the China Sea along the Asiatic island chains, in a northeasterly direction, toward the Aleutian Islands and Alaska, the climate of which it improves, as the Gulf Stream does that of Northwestern Europe. Between the Japan current and the main land, a cold current sets in the opposite direction, as in the case of the Gulf Stream.

The Antarctic Current,

Which enters the Atlantic, runs in a northwesterly direction to the southern extremity of Africa, and thence along its western coast until it joins the Equatorial near the Gulf of Guinea. That which sets into the Pacific flows along the South American coast, under the name of the Peruvian or Humboldt current, and is merged in the Equatorial west of the Gulf of Guayaquil. The Antarctic current, belonging to the Indian Ocean, runs along the western coast of Australia, and unites with the Equatorial just north of the Tropic of Capricorn.

From the Arctic Ocean two cold currents set to the south, one on each side of Greenland. Uniting at the mouth of Davis Strait, they continue their southerly course as far as Newfoundland, where part of this broad Arctic river, as an under-current, flows beneath the Gulf Stream, and the rest, as a surface-current, keeps inside of this stream, close to the American shore as far south as Florida.

Whirlpools are circular currents, which occur in certain localities.

Inland Waters.

The inland waters of the earth are springs, rivers and lakes.

The rain or melted snow and hail which sinks into the earth, penetrates the crust until it reaches an impervious strata, when it runs along until it finds an outlet at the surface in the form of a spring, or gathers into underground reservoirs, some of which, by their peculiar formation, having an outlet in the form of a siphon, form intermittent springs.

The drainage from the surface and the water from springs form small streams which unite to form rivers. When the water from streams and from the surface collects in depressions on the earth's surface, it forms lakes.

Lakes may be divided into classes, as follows: (1) Those having inlets, but no visible outlets. (2) Those having outlets, but no apparent inlets. (3) Those having no apparent outlets or inlets. (4) Those having both inlets and outlets.

The Caspian Sea, Aral Sea and Great Salt Lake are examples of the first class. Such lakes are usually salt. The water is either all lost by evaporation or is absorbed by the earth. Lakes of the second class are usually found in mountainous regions, and are the source of some large rivers. The water evidently comes from springs and rises until it runs over the basin. Lake Albano, near Rome, is an example of the third class. Such lakes are usually situated in elevated regions, are supposed to be

the craters of extinct volcanoes, and are fed by springs. Lakes of the fourth class are by far the most common.

When water evaporates, all impurities are left behind; hence rain water is not salt like the ocean. The water of springs, rivers and lakes is, therefore, pure and fresh, unless it comes in contact with foreign matter that it is capable of dissolving.

THE AIR.

The earth is surrounded by an elastic fluid called air, which enters the minutest pores, and therefore exists in every substance.

Air, like everything else, is attracted by the earth, hence it has weight, although experiments show that it is 815 times lighter than water.

Air is essential to the transmission of sound, to combustion, and to life.

CLIMATE.

Climate is the state of the atmosphere in regard to temperature, winds, moisture and salubrity.

The climate of a place as regards temperature depends upon:

Latitude.—The general law is that the amount of heat is greatest at the equator, and diminishes toward the poles. There are three reasons for this: 1. The sun's rays fall perpendicularly upon the earth at the equator, and more and more obliquely as we go toward the poles. 2. The area covered by a given amount of heating power from the sun is smaller at the equator. 3. Where the sun's rays fall perpendicularly they pass through a less amount of atmosphere, and the absorption of heat is less.

Altitude.—The decrease in temperature is about three deg. F. for every 1,000 feet of elevation. As the air receives most of its heat by radiation and reflection from the earth, and as the higher we go the less dense the air, the less heat is absorbed either from the earth or from the direct rays of the sun.

Prevailing Winds.—Winds blowing from the tropical regions carry the heat with them, and conversely, winds from the polar regions lower the temperature. Whichever wind prevails throughout the year in a given place will consequently modify the temperature of that place.

Length of Day.— During the day the earth receives from the sun more heat than it radiates into space; while during the night it radiates more than it receives. Hence a succession of long days and short nights results in an accumulation of heat, raising the average temperature and producing summer; while long nights and short days result in a temperature below the average, producing winter. The heating power of the sun is greater in summer, because at that season it is shining more directly upon that part of the earth, and conversely in winter. In the tropical regions the inequality of day and night is very little, but increases toward the poles. The temperature in the tropics is therefore more uniform. The length of day makes up for the lessened intensity of the sun's rays; hence a place in high latitude may have at times higher temperature than a place within the tropics.

Ocean Currents.— The warm waters of the tropical regions being brought toward the polar regions bring the heat with them, radiating it into space, and it is absorbed by the atmosphere.

Mountain Ranges.—A mountain range will make a country near it warmer or colder, according as it shields it from a cold or warm wind.

The Distribution of Land and Water.— Land heats or cools rapidly, absorbing or emitting but little heat. Water heats or cools slowly, absorbing or emitting large quantities of heat. Hence the land is subject to great and sudden changes of temperature; the water to small and gradual changes. Places situated near the sea have, therefore, a more equable climate.

Character of Soil.— Dry, sandy soil heats and cools more rapidly than wet and marshy lands; hence the latter will have a more uniform temperature.

Slope of Land.—Land which slopes so that the sun's rays will strike it nearer vertically will receive more heat. The south side of a hill is warmer in winter than the north side. In regard to winds the climate of a place depends upon:

Temperature.—As winds are but masses of air set in motion by the unequal heating, the winds of any given place depend primarily upon the temperature, though not necessarily upon the temperature of that place. As the air is heated in the tropical parts of the earth by the sun, it rises, and colder air flows in from the polar regions to take its place; hence the primary currents, which are modified in various ways by other causes.

Rotation of the Earth.—The winds are turned out of their course by the rotation of the earth in the same manner as the ocean currents.

Land and Water.— The land becomes warmer during the day than the sea, and, the air rising, a cooler air flows in from the sea. At night the land parts with its heat more rapidly than the water and becomes cooler; then the wind sets the other way. Hence we have the land and sea breezes.

Elevation of the Land.—Mountains, as has already been stated, shelter places from winds. Some of the great plains are subject to almost constant winds.

In regard to moisture, the climate of a place depends upon:

Prevailing Wind.—If a wind blows from large bodies of water in a warm region it will be laden with moisture which will be likely to be precipitated on reaching a colder country.

Mountains.—The contact of a moisture-laden wind with the cold sides of mountains will cause a precipitation of its moisture, and the regions beyond the mountains will not receive it.

Forests, by shading the earth, keep its surface cool, and this tends to condense the moisture.

Cultivation of the Soil, causing it to absorb moisture from the atmosphere, and by capillary attraction in dry weather bring up moisture from below to the surface.

Temperature.— Increased heat causes greater evaporation, and hence more moisture in the atmosphere. More rain falls within the tropics than in the temperate or polar regions.

Land and Water.— More rain falls on the coasts of a country than in the interior, because the winds are more moist. More rain falls in the northern hemisphere than in the southern because there is a greater diversity of land and water, the evaporation coming mainly from the ocean, and the condensation from the diversified land surface.

Isothermal lines are lines connecting places that have the same mean temperature.

There is a line or limit of elevation, above which the surface is covered with perpetual snow; this is called the snow-line.

WINDS AND WEATHER.

Wind is air in motion. Winds have a purifying effect upon the atmosphere; they dissipate unhealthy exhalations; they transport vapors from the sea to moisten and fertilize the land; they carry the seeds of plants far and wide, and thus extend the empire of vegetation; finally, they wast our ships, and are, in some countries, made available as a motive power for machinery.

The cause of winds is the difference of heat received from the sun in different places. The heated air expands, becomes rarefied, and rises. The cooler air immediately rushes in from the surrounding parts, to restore the disturbed equilibrium.

The trade-winds are so named because, by their regularity, they favor commerce. They are produced as follows: The equatorial regions being most intensely heated, a current of rarefied air is there constantly ascending, while colder currents from the north and south set in toward the equator to fill its place. When these reach the ascending current, having in turn become rarefied, they follow it in its upward course, and thus air is withdrawn from the higher latitudes, and accumulated in the equatorial regions.

Whirlwinds are bodies of air that have a rotatory or spiral motion, and are usually caused by the meeting of contrary winds.

When a whirlwind occurs on a sandy plain or desert, great quantities of fine sand are carried up to a great height in the atmosphere, and move with the revolving body of air, forming what are called sand-pillars.

The Sirocco, which in some places is a warm, damp wind, in Madeira is a hot wind, and likewise in Sicily, where it is equally warm and damp like steam.

The Simoon is a very hot wind, raising sand-storms in the deserts, and experience has shown it to be very prejudicial to life in consequence of the fine sand and the tremendous heat it carries with it. Then we have the Hurricane, from "Ouracan," of the Caribs; the Typhoon, or Tae-fun, of China, so called from the dreaded god Typhon of Egypt; and the Tornado and Cyclone—all violent winds, and circling round, causing, so to speak, whirlwinds, by which trees are uprooted and houses destroyed.

In hurricanes, tornadoes, etc., the rotatory motion of the air is from right to left in the northern hemisphere, and from left to right in the southern.

Water-spouts are whirled up by the winds in spiral columns of water, and when permitted to come near a ship at sea, or when they break upon land, which is seldom, are very destructive.

Dew and Hoar-Frost.

When air charged with moisture comes in contact with a solid surface colder than itself, aqueous vapor is precipitated on this surface as dew. The grass at night becomes cooled by radiation, and thus condenses upon its surface the vapor of the air. Dew will gather most freely upon those objects that are the best radiators, as they will the soonest become cool. Thus grass, leaves. etc., which need the most, get the most.

Dew will not form on windy nights, because the air is constantly changing, and does not become cool enough to deposit its moisture. A heavy dew is a sign of rain, because it shows that the moisture of the air is easily condensed.

If, during the precipitation of dew, the temperature falls to the freezing-point (32° F.), hoar-frost is formed. This consists of minute ice-crystals, and is nothing more than frozen dew. Frost will not form on cloudy nights, because the clouds act like a blanket, to prevent radiation, and keep the earth warm.

Fogs.

Fogs are formed when the temperature of the air falls below the dew-point (i. e., the temperature at which dew is deposited). They are found mainly on low grounds, and in the vicinity of rivers, ponds, etc., where the abundance of moisture keeps the air constantly saturated.

Clouds.

Clouds are collections of visible vapor suspended in the atmosphere, at altitudes ranging from one to five miles. Vapor consists of particles of water so fine and light that they float in the air like dust.

Mountains are "cloud-capped," because the warm air rising from the valley is condensed upon their cold summits. Clouds are constantly falling by their weight; but, as they melt away in the warm air below, by condensation they increase above.

The nimbus cloud is a dark-colored cloud, from which rain falls.

The *stratus* cloud is composed of broad, widely extended cloud-belts, sometimes spread over the whole sky. It is the lowest cloud, and often rests on the earth. It is the night cloud.

The cumulus cloud is made up of large cloud-masses, looking like snow-capped mountains piled up along the horizon. It forms the summits of pillars of vapor, which, streaming up from the earth, are condensed in the upper air. It is the day cloud; and, when of small size and seen only near midday, is a sign of fair weather.

The cirrus cloud consists of light, fleecy clouds floating high in air. It is believed to be formed of spiculæ of ice or flakes of snow.

The cirro-cumulus is formed by small, distinct, rounded portions of the cirrus cloud, which separate from each other, leaving a clear sky between. It accompanies warm, dry weather. The cirro-stratus is produced when the cirrus cloud spreads out into long, slender strata. It forebodes storms. The cumulo-stratus presents the peculiar forms called "thunder-heads." It is caused by a blending of the cumulus with the stratus, and is a precursor of thunder-storms.

Rain-Snow-Hail.

When the minute vapor-particles of clouds combine and grow too heavy to float in the air, they are precipitated as rain—or, at a temperature below the freezing-point, as snow or hail.

Snow is frozen vapor, with its particles aggregated in flakes. Hail is frozen rain.

Snow is an important agent in the economy of nature. Being a non-conductor of heat, it protects the roots of the grasses and the winter grains from severe frosts. Collecting in great the control on lofty mountains and gradually thawing, it feeds streams, which carry fertility and wealth to extensive districts.

Lightning and Thunder.

Lightning is a discharge of atmospheric electricity, accompanied by a flash of light.

Heat-lightning is either the reflection of distant flashes on the clouds, or the frequent and therefore weak and silent discharge of electricity from the clouds through a moist atmosphere.

Lightning cleaves the air with inconceivable rapidity, and leaves a vacuum behind it, into which the surrounding air rushes with great force, and with a loud, crackling sound, which we call thunder.

Lightning and thunder take place at the same instant, but we see the former before we hear the latter. This is because light travels with much greater velocity than sound.

Thunder-storms are most frequent within the tropics during the rainy season.

The Aurora Borealis.

The aurora borealis is a luminous appearance, which at times imparts wonderful beauty to the polar skies at night, and is also of occasional occurrence in the temperate latitudes. It is supposed to be produced by the passage of electric currents through strata of highly rarefied air.

Mirage.

Mirage (sometimes called Fala Morgana) is the appearance in the air of the image of some distant object, seen either in connection with the object itself, above or below the latter, or suspended in the air, the object being invisible. It is a very curious but sufficiently common phenomena, and in the Asiatic and African plains it is frequently observed. When the weather is calm and the ground hot, the Egyptian landscape appears like a lake, and the houses look like islands in the midst of a widely-spreading expanse of water. This causes the mirage, which is the result of evaporation, while the different temperatures of the air strata cause an unequal reflection and refraction of light, which give rise to the mirage. Travelers are frequently deceived, but the camels will not quicken their usual pace until they scent water.

The Fata Morgana and the inverted images of ships seen at sea are not uncommon on European coasts. Between Sicily and Italy this effect is seen in the Sea of Reggio with fine effect. Palaces, towers, fertile plains, with cattle grazing on them, are seen, with many other terrestrial objects, upon the sea—the palaces of the Fairy Morgana. The inverted images of ships are frequently perceived, and many most extraordinary but perfectly authentic tales have been related concerning the reflection and refraction of persons and objects in the sky and on land, when no human beings nor any of the actual objects were within the range of vision.

THE ANIMAL KINGDOM.

Zoology is that science which treats of animals, their structure, habits and classification.

There are four principal divisions of animals, based on distinct types of structure, and including all the denizens of the earth, the water and the air. Following are the divisions of the animal kingdom, beginning with the lowest:

SUB-KINGDOMS OR DIVISIONS.

- I. PROTOZOA—First-living things, or lowest form of animal life.
- II. RADIATA—Radiates, that is, such as are shaped like a star or flower, and have their organs arranged uniformly around a common center.
- III. MOLLUSCA—Mollusks, that is, soft-bodied, without joints, and without vertebræ, but usually protected by a shell.

CLASSES OF SUBDIVISIONS.

- Amœba, sponges, proteus, etc.
 They have no mouth, and no distinct members, but are capable of making many changes in their form.
- 1. Coral animals, sea-anemones, etc.
- 2. Jelly-fishes, sea-nettles.
- 1. Star-fishes, sea-urchins.
- Bryozoa, that is, moss animals; as sea-mats, white sea-weeds, etc.
- Brachlopods, that is, with armfeet, or spiral appendages; as the lingulæ, spirifers, etc.
- Ascidians, that is, pouch-like; as salpæ, etc.
- 4. Acephals, that is, headless; as oysters, etc.
- Cephalates, that is, with heads; as snails, etc.
- Cephalopods, that is, with heads and feet, or, more strictly, tentacles.

- IV. ARTICULATA Articulates, that is, animals having the body and members jointed, but without an internal skeleton.
- V. Vertebrata Vertebrates, that is, animals that have a backbone, and an articulated or jointed skeleton, and a great nervous cord, the spinal marrow, enclosed in a bony sheath.
- 1. Worms, as earth-worms, leeches,
- 2. Crustaceans, as crabs, lobsters, etc.
- 3. Centipedes, etc.
- 4. Spiders, etc.
- 5. Beetles, butterflies, etc.
- ı. Fishes
- Reptiles, that is, creeping things, as turtles, frogs, snakes, lizards, etc.
- 3. Birds, that is, "Every winged fowl."
- 4. Mammalia, that is, animals with teats.

The last class, Mammalia, is further subdivided into fourteen orders, of which the most distinctive, still ascending from the lower to the higher, are four, namely:

- 1. Cetacea, that is, of the whale tribe.
- 2. Quadrupeds, that is, four-footed animals generally.
- Quadrumana, that is, four-handed; as the gorilla, chimpanzee, ape and monkey.
- 4. Bimana, that is, two-handed; of which the only representative is man.

ETHNOLOGY.

Ethnology is that science which treats of the division of man into races, with their origin, relations and characteristics. Naturalists divide mankind, according to certain physical characteristics, into varieties, or races. Authorities differ greatly in this classification. Cuvier made three races; Pritchard, seven; Agassiz, eight, and Pickering, eleven; but the classification most commonly accepted is that into five races, as made by Blumenbach, as follows: The Caucasian, European, or white race; the Mongolian, Asiatic, or yellow race; the Ethiopian, African, or black race; the American Indian, or red race; the Malay, or brown race. The first three are much more clearly marked, and are considered by Guyot as primary races; the others, being modifications of these three, he designates as secondary races. Because of the blending of types, it is difficult to make a classification, hence the difference among authorities. The points on which the classification is based are mainly the size and proportions of the body, the shape of head and the features, the hair and beard, and the color of the skin

The Caucasian race are characterized by tall stature, oval head and face, high forehead, regular features, abundance and softness of hair and beard, and usually fair skin, but in some it is tawny or swarthy, as in the Hindoos, Arabs and others. They stand at the head in intelligence and civilization. This race is represented by the principal inhabitants of Europe and their descendants in America, and by the inhabitants of India, Arabia and of Western Asia and Northern Africa.

The Germanic nations are descendants of the numerous tribes of the ancient German stock that destroyed the Roman empire and erected different states upon its ruins.

The Romanic nations occupy Southern Europe, and are so called because their languages are mostly derived from the Latin spoken by the ancient Romans. They are mixed nations, descended partly from the ancient Pelasgians and partly from other branches of Aryan stock.

The Italians derive their origin from the Romans, German Longobards and Normans, with a slight intermixture of the Arabic stock.

The Spanish and Portuguese have sprung from a mixture of Celts, Romans, Germans and Arabs.

The Mongolian race are distinguished by short stature, round head, wide face, high cheek bones, obliquely set eyes, coarse straight hair, scarcely any beard, and yellowish color of the skin. They are distributed over the whole of Eastern Asia, except in India, and include the Esquimaux of the northern part of North America.

The Ethiopian race are characterized by medium stature, generally ungainly form, low and retreating forehead, head full back of the ears, flat, broad nose, projecting jaws, thick lips, short, curly hair, and skin generally black or dark. They occupy all of Africa, except the northern part, and many of their descendants are found in America.

The American race resemble the Mongolian, but the head is not so round, the face less wide and flat, the eyes horizontal, the hair black and straight, and beard scanty, and the skin a reddish or copper color. They occupy North and South America, except on the Arctic shores.

The *Malay race* resemble also the Mongolian, but have thicker lips, horizontal eyes, hair less straight, generally full beards, and color usually brown. They occupy the Malay peninsula and the islands of the Pacific and Indian Oceans.

The number of *languages* spoken on the earth is estimated at eight hundred and sixty, embracing about five thousand dialects. The language spoken by the greatest number is the Chinese; the one most widely spread is the English.

In regard to religion, mankind may be divided into two general classes: Monotheistic, those who worship one god, and polytheistic, those who worship more than one god, also called pagans, or heathens. Of the first class we have: (1) the Christian, which recognizes the Bible as the revealed word of God, and Jesus Christ as the Son of God; (2) the Jewish, which recognizes the Old Testament as the word of God, but does not acknowledge Christ; (3) the Mohammedan, or the religion of Islam, whose two articles of faith are, "There is no god but God, and Mohammed is the Prophet of God."

Of the second class there are: (1) Brahminism, or Hindooism, the religion of the people of India, a very ancient religion which has many good moral doctrines, but strange ideas of a future state; (2) Buddhism, an offshoot of Brahminism, now practiced by the people of China and Japan, founded by Sakya-Muni, who adopted the title of Buddha (the enlightened), a religion which has been more enthusiastic in making converts than any other, except Christianity, and has many good moral precepts, but is practically atheistic; (3) Fetichism, a very low form of superstition, which consists in the worship of material objects, either living or dead, as animals, or idols of wood or stone.

In regard to general culture and intelligence, mankind may be divided into: (I) Savages, those who are scarcely elevated above the brutes, live in tribes and subsist by hunting and fishing; (2) Barbarians, those who have possessions, as flocks and herds, and practice agriculture to some extent, yet have made

no progress in arts and sciences; (3) Half-civilized, those who have made some progress in the arts, have towns and cities, but depend chiefly upon agriculture; (4) Civilized, those who have made considerable progress in science and art, engage in commerce and have a written language; (5) Enlightened, those who stand at the head of the scale, have a division of labor, systems of education, and have made the greatest progress in science, art, and in morality.

The principal forms of government are: (1) The monarchical, that form where one person exercises chief power, to which he succeeds by inheritance, and holds for life. (2) Republican, where the power is vested in men who are chosen by the people for a limited period. An absolute monarchy (despotism) is one where the ruler has unlimited or absolute power, his will being the sole law. A limited or constitutional monarchy is one where the ruler's power is limited by a constitution, or laws made by the representatives of the people. In a monarchical government the ruler receives various titles in different countries, as emperor, king or queen, czar, sultan, shah and mikado. In a republican government the chief officer is called a president.

ANIMAL AND VEGETABLE LIFE.

The animals of a country taken together are called its *fauna*, while its flowers and vegetation are denominated *flora*.

The frigid zones produce very scanty vegetation, mosses and lichens, and some stunted specimens of the higher forms, as the willow, birch and pine. The animal world is much more varied as to species. Here are found the reindeer, the musk ox and the white bear, and many smaller fur-bearing animals on the land; while, in the sea, or on its shores, are found whales, walruses, seals and water-fowls of many species.

In the torrid zone is found the most dense and varied vegetation, flowers of the most brilliant hue and of the largest size, the most delicious fruits, the most powerful aromatics, the most valuable woods; in fact, the most of those productions which add to the luxuries of life. The animal world is represented by the greatest number of species, among which are those of the largest size, the most powerful and active, and the most intelligent. It is the home of the elephant, the giraffe, the lion, the tiger, the monkey, the ostrich, the condor, parrots, and of reptiles of the largest size, as the crocodile and boa constrictor, as well as those of the most poisonous character.

In the temperate zones are found the vegetation most useful to man, as the oak, the pine, the maple and other useful timber trees; the indispensable grains, as wheat, maize, barley, rye; the useful fruits, as the apple, peach, pear, etc., and the fabric plants, as flax and cotton. The animal kingdom is represented by the bear, the bison, the elk and deer, the wolf; and the domestic animals so useful to man, as the horse, the ox, sheep and goats; and many species of fowl, as pigeons, ducks, geese, turkeys, etc.

MINERALS AND METALS.

The prosperity and wealth of a country depend largely upon its mineral resources. Nature has bestowed her wealth in lavish abundance, asking only the labor of man to make it useful. As

a rule the useful and valuable minerals are found in rocky or mountainous countries. These countries not being adapted to agriculture, the people find employment in mining and manufacturing the raw material which is stowed away in their hills, depending for subsistence upon commerce with their agricultural neighbors of the plains. On the other hand, the inhabitants of the plains must depend upon their neighbors of the hills for material which adds to their comfort and convenience. Wherever that most useful of metals, iron, is found, near by is always found coal, which is necessary in reducing the iron to useful forms. Timber also grows abundantly on the mountains. This, too, is necessary to the manufacturer. The streams of hilly countries have greater fall, and are thus adapted for water power, which also adds to the advantages.

Many minerals occur near the surface of the earth, in alluvial soil or the sandy beds of rivers; but the greater part lie deep in the ground, and are obtained with more or less labor by mining.

The most important metals are gold, silver, platinum, mercury, iron, lead, copper, tin, nickel, zinc and antimony.

The richest silver mines in the world are those of Mexico. Iron is found in the greatest abundance in different parts of the United States and Europe. The great lead mines of the United States lie on each side of the Mississippi River, in Northwestern Illinois, Southwestern Wisconsin, and Iowa, and in Missouri, south of the Missouri River. The richest and purest copper mines in the world lie on the shores of Lake Superior, in Northern Michigan, where blocks of native copper weighing 80 tons have been found. Zinc occurs in the Appalachian region, particularly New Jersey and Pennsylvania; also in Illinois, Missouri, Wisconsin and Tennessee.

Some Strange Metals.

Some of the metals, familiar enough to the chemist, though rarely seen outside his laboratory, have so little in common with the metals of everyday life as to scarcely seem to belong to the same class of substances. We commonly think of a metal as being heavy, yet sodium and potassium will float on water, and lithium is the lightest of all known solids. The fact is, that the word "metal" is one of the hardest in the language to define. The metals all have a peculiar luster, to be sure, which, from its association, has come to be called metallic; but many minerals, as galena and black-lead, which most certainly are not metals, have the same appearance, and so on, through the list of properties. The chemical relations of the metals give good reasons for placing these substances by themselves, though even here the lines are not clearly marked.

One of the most distinctive properties of the metals is their power to form, when combined with acids, a class of bodies called salts—on account of their resemblance to common salt—which contains about 40 per cent of the metal sodium. This metal is a bluish white, waxy solid, and has such a great tendency to rust, or unite with the oxygen in the air, that it must be kept in some oil, like petroleum, which contains no oxygen.

If a bit of sodium be thrown upon a piece of ice, the metal takes fire, and any attempts to put it out by pouring water on it would only be adding fuel to the flame. The sodium-match is an application of this peculiar property of the metal. It is merely a bit of wood tipped with sodium, and which can, of course, be lighted on the stormiest day by the mere contact of a raindrop. The matches are, however, decidedly dangerous, and their manufacture is generally prohibited.

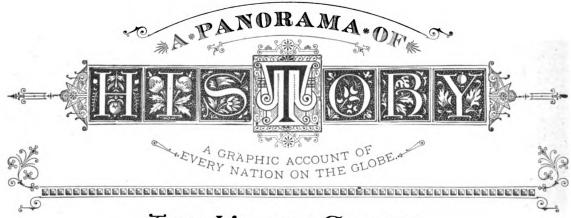
Potassium, which is obtained from potash, is another metal very similar to sodium, and will take fire upon ice or water even more readily than this last-named metal. A small piece of potassium thrown into a jug of water apparently takes fire at once, and swims about with great rapidity, burning all the time with a brilliant violet flame

One may be forgiven if his ideas on combustion are somewhat upset by the first sight of this phenomenon, but there is really nothing very strange about it. Water is a compound of hydrogen and oxygen, and these metals, sodium and potassium, have so strong an attraction for oxygen that they will take it wherever they can find it, even from water. This, of course, sets the oxygen free, which is set on fire by the heat given off when the potassium and oxygen unite, and burns with a violet color because of the vapor of the metal. The same is true in the case of sodium; the flame is due to the burning hydrogen rather than the metal.

Sodium, potassium, and lithium, with several other metals, form a group known as the alkali metals. There is another group, to which iron belongs, which contains an interesting member called aluminum—sometimes aluminium—from its occurrence in common alum.

Aluminum is a beautiful metal, much like silver in appearance, and possessing many valuable properties. It is very sonorous, easily worked, does not tarnish in the air, and is only about one-fourth as heavy as silver. It conducts electricity eight times better than iron. Added to this, it occurs in greater quantity than any other metal in the world. Every clay-bank, every granite-bed, is a bed of aluminum, but as yet no cheap and ready means of obtaining the metal has been found in spite of all attempts. Napoleon offered a large reward to any one discovering such a process, as, on account of its lightness, he wished to use the metal in his army for helmets and cuirasses.

It is hardly possible to give an exact statement of the amount of aluminum in different clays, since the composition of these earths varies greatly. Clays are impure silicates of aluminum, and, generally speaking, a good brick clay contains a tenth or more, by weight, of the metal. This would be sufficient to plate the upper surface of the bricks, as they are commonly laid in sidewalks, with a layer of metallic aluminum a fifth of an inch deep. Or this same amount of metal would form a layer one-third of an inch deep on the outside of the bricks, as they are laid in our houses. So we find this hidden metal everywhere about us, and a princely fortune awaits the man who can bring it to the light.



GHE UNITED STATES.

was an uninteresting series of selfish bickerings and quarrels. Only once or twice during this period did any of the colonies form unions with one another,

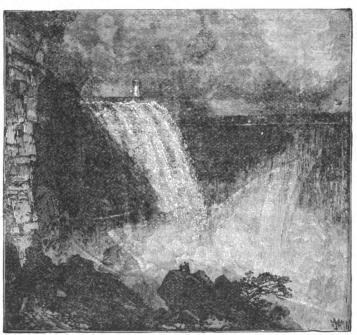
and even then it was done solely for the purpose of mutual

protection against the common enemy, the Indians, whose incursions upon the settlements, and the wars waged against them, form the most romantic pages of this period of American history. The people were too loyal to think of separating from the mother country, whose utter disregard of her alien children is alone to blame for the loss of the empire which they deprived her of when they united and fought for and obtained the glorious boon of national independence. It is with the events which preceded this consummation that the history of the United States really begins. Unacquainted at once with the needs and with the spirit of the colo-

nists, the home Government brought to bear upon them several oppressive measures against which they entered more than one gentle but decided protest. No taxation without representation was the central idea of the Colonial opposition to British rule, and

when, in 1765, the British Government passed what was known as the Stamp Act, requiring the colonists to place the Government stamp upon all their legal documents, newspapers or pamphlets, a general opposition to the law was aroused in the colonies, which resulted in the calling of a Colonial Congress, which entered a formal protest against the measure. Its

repeal was secured by this action, but the relief was only temporary, as ten years later the Government imposed a duty on tea, glass, paper and other colonial imports, which was bitterly resisted. In Boston the outcry against it was especially loud, and there occurred that very ominous affair known as the "Boston Tea Party," when patriotic colonists, disguised as Indians, boarded the British ships and threw into the bay the tea which constituted their main cargoes. The British Parliament closed the port of Boston, and these harsh measures, unrelieved by any efforts in the direction of conciliation, drove the colonists to rebellion.



THE FALLS OF NIAGARA.

War began April 19, 1775, when the Colonial militia and the British troops met at Concord. Common cause was at once made by the colonists, who raised troops and placed them under the command of George Washington, a Virginian,

who had served with credit as an English officer in the wars against the French in the West. Boston was evacuated by the British March 17, 1776, and July 4th of the same year Congress adopted the Declaration of Independence. Reverses now befell the Colonial armies. New York was lost to them, and this serious blow was hardly offset by the victories of Princeton and Trenton. Philadelphia was abandoned in 1777, the most important Colonial victory of that year being the one gained by General Gates at Saratoga, where he captured General Burgoyne and his army. Very serious was the drain upon the population and resources of the Revolutionary Government at this time, and during the winter of 1777-78, which the American army passed in camp at Valley Forge, the fortunes of the young nation seemed at a very low ebb. While the army was suffering from cold and short rations during this season, the American diplomat Benjamin Franklin was at the court of France, successfully conducting negotiations which led to the establishment of a defensive and offensive alliance between that country and the Americans. French money and men proved a timely aid, though for two years the colonists made no great headway. In 1781 the campaign in the South was conducted with such vigor that the British forces there were

cooped up in Savannah, Georgia, and Charleston, South Carolina. Successes further north followed, and the surrender of General Cornwallis at Yorktown, Virginia, proved the ruin of the British cause in America, and the practical termination of the war. In the following year negotiations for peace were begun, and a

treaty acknowledging the independence of the United States was signed September 3, 1783.

It had been felt all through the war that the articles of confederation under which the different colonies co-operated were altogether inadequate to the conduct of the young nation's affairs, and the revision of the form of government was one of the earliest matters to receive the attention of its leaders. A convention was called at Annapolis in 1787, which framed the Constitution of the United States, which was duly ratified by the States and has remained, with the addition of sundry amendments, the embodiment of the principles of government in this -country ever since. In 1787 General George Washington was elected first President of the United States, and a second term of office was accorded him in 1791, at the end of which he declined to again accept the office, thus establishing the no-third-term precedent, violation of which has not since been permitted by the American people. Early in the political history of the country party lines began to be sharply drawn, the adoption of the Constitution causing the first clearly defined difference of opinion, when those favoring it became known as Federalists

and those opposed to it as Anti-Federalists, the latter party assuming the name Republican subsequent to the Constitution's adoption. The presidential elections following those of Washington, in which patriotic sentiment was allowed to overcome party feeling, were purely partisan; and while the Federalists succeeded in placing John Adams in the presidential chair as Washington's successor, the Republicans elected Jefferson, Madison and Monroe, each for two terms of office. With the exception of wars with the Indians, who disputed the advance into their territories caused by the rapid growth of the population, the country was at peace during the years subsequent to Washington's inauguration. In 1812, however, differences arose with Great Britain, then at war with France, the most serious of which was her persistence in asserting the right of searching American vessels and removing from them sailors who she claimed were of British birth, but who really, in a vast majority of cases, were American citizens, of whom not less than 6,000 were so impressed in the year 1811. The war was conducted with varying success in different parts of the continent. In the operations against Canada, General William Henry Harrison won a glorious victory near Detroit, defeating a British army with which was allied a powerful force of In-

dians under the famous leader Tecumseh, who was slain. General Scott secured successes at Lundy's Lane and Chippewa; while Commodore Perry, on Lake Erie, and Commodore Mc-Donough, on Lake Champlain, swept those waters of British war vessels and greatly enhanced the importance of the military victories. In



THE SUSPENSION BRIDGE, NIAGARA.

the South, General Jackson defeated the British at the memorable battle of New Orleans. The principal reverses sustained during the war were the capture of General Hull and his army at Detroit, and of General Winchester and the defeat of the Americans at Bladensburgh, which opened the way to the British occupation of Washington. The war, which came to an end December 24, 1814, was strongly opposed by the Federalists, and led to the overthrow of the Republican party. While it was in progress an uprising of the Creek Indians in Alabama caused considerable trouble, but they were conquered by General Jackson. Further troubles with Indians occurred in 1832, when the Sacs and Foxes, tribes living in the Northwest, had to be quelled in what is known as the Black Hawk war, and in 1835, when Osceola, a crafty leader of the Seminole tribe, of Florida, began a war which lasted for four years before they were brought under subjection. All of these troublesome savages were removed to lands reserved for them, and known then and since as the Indian Territory.

Although no foreign war occupied the public mind for thirty years from the close of that of 1812, important events at home caused great agitation. The question of perpetuating the institution of slavery in the new States caused a long and excited controversy, which ended temporarily in 1820 by the admission of Missouri as a slave State, with a compromise resolution providing that in future no slave State should exist north of the parallel 36 degrees 20 seconds north latitude. In 1832, the adoption of a high protective tariff by Congress was resented by the Southern States, South Carolina declaring it unconstitutional and threatening secession. Happily, when a collision seemed unavoidable, a compromise, effected by Henry Clay, providing for the gradual reduction of duties, restored a peaceful condition of affairs. In 1837 occurred a financial crisis attended with many serious commercial disasters, the result of a period of over-speculation and expansion

defeated the Mexican General Santa Anna. In 1847, General Winfield Scott captured the seaport of Vera Cruz, and, marching up the valley of Mexico, fought and won the battles of Cerro Gordo, Churubusco and Chapultepec, and captured the city of Mexico. The war came to an end February 2, 1848, the Mexicans ceding New Mexico and Upper California to the United States.

No foreign war was conducted by the United States after this, but within her boundaries a conflict of forces was going on which was doomed to bring the country to internal strife. The agitation of the slavery question continued, and, as years went by, the discussion of its merits increased in bitterness. Still the country continued to grow rapidly in wealth and population, and many hoped that some compromise might yet



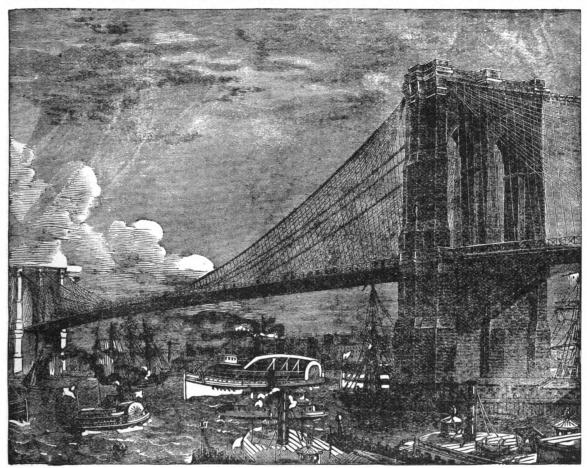
THE CITY OF BOSTON.

of the currency. During the administration of President Tyler, the boundary question threatened a disruption of peaceful relations with Great Britain, but the arbitration treaty, which was arranged by Daniel Webster, averted the threatened disaster. In 1845, the Mexican State of Texas, which had been largely settled by Americans, and which had declared its independence some years previous, was annexed by the United States. A dispute with Mexico over the boundary question followed, which led to war, and General Zachary Taylor, in the battles of Palo Alto and Resaca de la Palma, captured the city of Monterey, and marched on to Buena Vista, where he

preserve the national peace, which the more reckless supporters of both the Abolition and Slavery parties, judging by the fierceness of their utterances, seemed to hold of much lighter account than the respective principles they upheld. As each election went by, the issue became more clearly that of slavery or freedom, and in 1860 Abraham Lincoln was elected President by the Republican party on a platform which, while leaving to each State the right to order and control its own domestic institutions, insisted that freedom was the normal condition of all the territory of the United States. On the other hand, the Southern States had made the declaration that

the election of a President pledged to oppose the extension of slavery would be a violation of their constitutional rights and a moral invasion of the Slave States. In adherence to this declaration, in December, 1860, South Carolina seceded from the Union, and her example was followed by Mississippi, Georgia, Alabama, Florida, Louisiana, Texas, Virginia, Arkansas, Tennessee and North Carolina. In April following the Confederates opened hostilities by bombarding Fort Sumter, near Charleston, S. C., and compelling the Union

before General Grant, and, Port Hudson surrendering a few days later, the blockade of the Mississippi was ended. The battle of Gettysburg, at which General Meade defeated Lee's splendid army, was another important Northern victory during the year of Emancipation. In 1864, General Sherman captured Atlanta, and accomplished his march to the sea, which ended with the fall of Savannah. The bloody victories of the Wilderness and of Spottsylvania helped the Union soldiers in their march south, and the siege of Petersburg was conducted



THE BROOKLYN SUSPENSION BRIDGE.

garrison to surrender. Both sides to the impending conflict armed with haste, and the first serious clash of arms occurred at Bull Run, where the Federal forces became panic-stricken and suffered defeat. The Confederates gained but a slight advantage and were driven back. In the West, where the Confederates had closed up the Mississippi River, the Federals captured Forts Henry and Donelson, and overran the State of Tennessee. On January 1, 1863, President Lincoln issued the Emancipation Proclamation. With varying fortunes the war progressed until July 4th of that year, when Vicksburg fell

by General Grant in command of a line between thirty and forty miles in length. The fall of Richmond and Petersburg, April 2 and 3, 1865, brought the end near, and a week later General Lee surrendered at Appomattox Court-house. The war, in the conduct of which nearly 1,800,000 Union soldiers had been enlisted, and a debt of \$2,000,000,000 incurred, called for special financial legislation. In 1862, and on subsequent occasions, were issued legal tender notes of the United States, and interest-bearing bonds of various kinds. A national bank system, which survives, was established. Customs duties

were raised to an average of nearly 50 per cent, and a direct tax and a large variety of internal revenue duties were im-



COL. W. A. ROEBLING.
BUILDER OF THE BROOKLYN BRIDGE.

posed. These impositions provided for the annual expenditures of the Government, which were increased from \$60,000,000 in 1865 to \$1,217,000,000 in 1865.

April 14, 1865, a few weeks after his inauguration for the second term, President Lincoln was assassinated at Washington by J. Wilkes Booth, who was hunted down and killed a few days later, four of his accomplices being convicted and executed. Vice-President Johnson became President, and the work of political reconstruction was begun. The Thirteenth Amendment to the Constitution, abolishing slavery within the United States and places subject to their jurisdiction, was duly ratified and proclaimed. In April, 1866, Congress passed the Civil Rights bill over the President's veto, thus ensuring protection to the freed slaves, and giving to the Federal courts enlarged jurisdiction in the matter. In June was passed the Fourteenth Amendment, whereby equal civil rights were guaranteed to

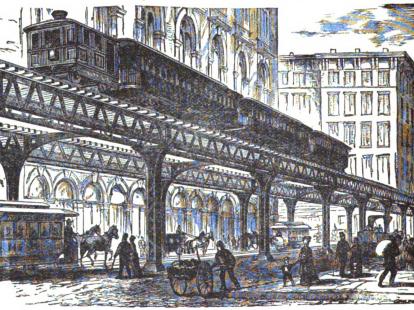
all, irrespective of race or color. By this time the breach between President Johnson and the Republican party was complete, and the antagonism grew until in March, 1867, the Republican Congress passed, over the President's veto, the tenure of office act, intended to contract the executive's power to remove officials. Mr. Johnson deemed the act an unconstitu-

tional invasion of his rights, and defied it, which led to his impeachment and trial by the Senate, who acquitted him, the two-thirds vote necessary for a conviction not being secured. Just before his retirement, the Fifteenth Amendment to the Constitution was passed, which provides that the rights of citizens of the United States to vote shall not be denied or abridged by the United States, or by any State, on account of race, color or previous condition of servitude.

At the next presidential election General U. S. Grant received the nomination of the Republican party and was elected. Representation in Congress was restored to such States as had not regained it since reconstruction commenced. In 1869 the Union Pacific and Central Pacific railroads were completed, connecting the Atlantic and Pacific oceans by rail.

The claims of the United States against the British Government for the depredations of the Alabama and other Confederate cruisers built by the English were referred to a tribunal of arbitration, which met at Geneva, Switzerland, in December, 1871, and awarded the United States the sum of \$15,500,000 damages, this being the first occasion in the world's history in which an international difficulty of such gravity had been disposed of in so peaceful a manner.

During General Grant's second term, which began in 1873, the Indians gave trouble. The Apaches, in Arizona, were subdued by General Crook. In 1873, General E. R. S. Canby and some other officers were treacherously massacred by the



THE NEW YORK ELEVATED RAILROAD.

Modocs, who were destroyed after a hard struggle. In 1876, the Sioux, in Montana, under Sitting Bull, rebelled against United States authority and were attacked by General George A. Custer, who, with his immediate command, was surrounded and slain, other companies of the cavalry regiment under him being rescued by General Terry.

In 1876 the convention of the Republican party nominated Rutherford B. Hayes, of Ohio, for President, while Samuel J. Tilden, of New York, was put forward by the Democrats. The ensuing election was extremely close, Mr. Tilden receiving a majority of the popular vote, and the returns also giving him a majority of the Electoral College. The returns from Florida and Louisiana were disputed, however, on the ground of fraud. Congress was unable to reach a decision, and an Electoral Commission was appointed. Under its decision, by a vote of 8 to 7, Mr. Hayes became President, the commission allotting him 185 of the electoral votes, one more than the number allotted Mr. Tilden. During the administration of President Hayes a great cause of irritation throughout the South was removed by his aversion to the use of the military power of the United States in controlling State governments. The decline of values in all parts of the country, however, as the time for resumption of specie payments approached, caused great distress. Wages were lowered, and thousands thrown out of employment. In the summer of 1877 a great strike of men engaged by the railroad companies stopped, for a time, all transportation of passengers and freight on many roads, and filled the country with alarm. Riots occurred at Reading, Scranton, Pittsburg, Chicago and St. Louis. At Pittsburg property to the amount of several millions of dollars was destroyed. During 1878 and 1879 the lower Mississippi valley was ravaged by yellow fever, and great numbers perished with the dread disease in New Orleans, Vicksburg, Memphis, and smaller places, although the Howard Association, as well as sisterhoods and clergymen, nobly devoted themselves to the care and relief of the sick. A majority of Congress, during Hayes' administration, was elected by the Democrats, and many cases of disagreement occurred between the legislative body and the executive, several bills being vetoed by the President, who, in 1879, called an extra session to pass the annual appropriation bills. One of the bills vetoed by the President was that to prevent the further immigration of natives of China. During the excitement on this subject in California, many acts of violence were perpetrated, and many Chinese left the State and became scattered through the country. A new treaty with China at last removed some of the difficulties.

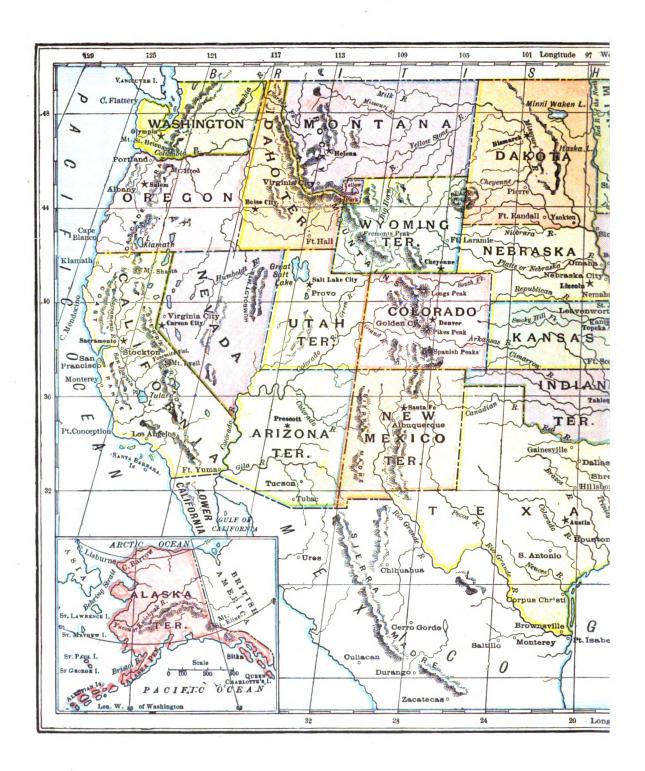
In 1880 the Republicans nominated and elected General James A. Garfield, his opponent for the Presidency being General Winfield S. Hancock. A strong effort had previously been made in the Republican party to nominate General Grant, who had made a tour of the world, and been received with great distinction in Europe. The election of 1880 was a close one, the vote of New York, which had for years been Democratic, deciding the contest in favor of the Republican candidate. The elections for Congress also showed a reaction in favor of the Republicans. The nomination of Garfield, however, had caused a split in the ranks of the Republican party, the supporters of the third term aspirations of General Grant, commonly known as "Stalwarts," feeling deeply their failure to nominate him. This opposition to the President reappeared after he had begun his administration, and an open rupture between him and the Stalwart leaders followed. While this was at its height, a political fanatic, named Charles Jules Guiteau, conceived the idea that he would restore unity to the party by removing the President, thus throwing the administration into the hands of Vice-President Arthur, who was a Stalwart, and had received the nomination as a concession to that faction. July 2, 1881, Guiteau lay in wait for the President at the railway station at Washington, and shot him as he was on the point of departing from the city upon a vacation. The wounded President died September 19, at Long Branch, N. J., and was succeeded by Vice-President Arthur. The assassin Guiteau was tried, convicted and sentenced to be hanged, the execution taking place in the jail building at Washington.

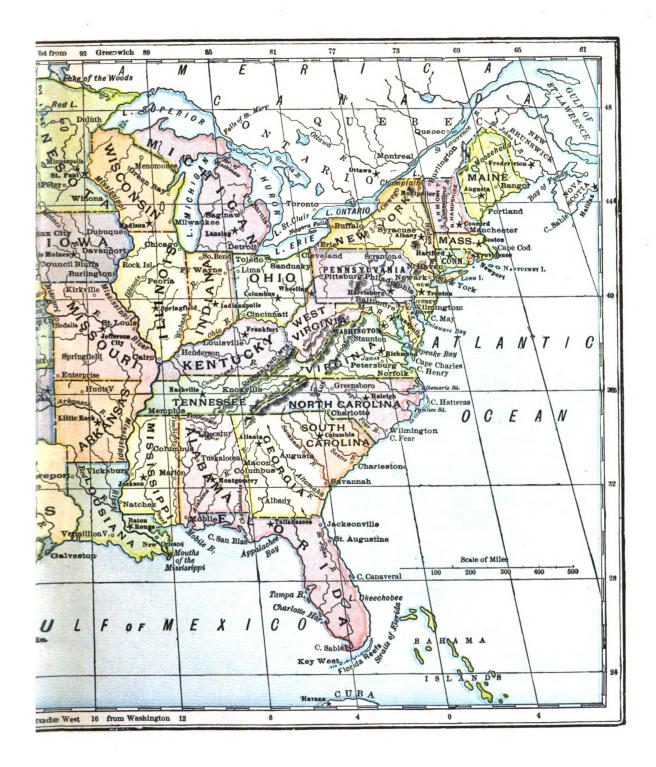
Since Mr. Arthur's accession to power the Democrats, in the general elections of 1882, came to the front and carried so many of the Congressional districts as to secure them a large majority in the Forty-eighth Congress, which assembled in December, 1883. Interest in the final session of that Congress settled largely upon their action in regard to the tariff, a modification of which was very evidently looked for by the people. In 1884 an unsuccessful attempt was made to re-adjust the tariff, with a view to reducing the surplus in the treasury and securing a more equitable distribution of taxation. The defeat of the measure was largely due to the Democratic majority in the House, who desired to enter the Presidential campaign unfettered by promises. Two unsuccessful treaties were negotiated during the same period. The first, with Mexico, was approved by the Senate, but failed to go into effect because of the refusal of the House to provide the legislative measures necessary to secure its operation. The other treaty, with Spain, was killed in its early stages. Negotiations for a new extradition treaty with Great Britain and her colonies were also begun.

The Presidential campaign of 1884 was bitter and aggressive. James G. Blaine, of Maine, the Republican candidate, was defeated by Grover Cleveland, of New York, the nominee of the Democratic party, who received the support of many dissatisfied Republicans; and in 1885, for the first time in twenty-four years, a Democrat was installed in the White House-President Cleveland took the helm of state with the motto of "Reform," and the conservative spirit displayed in his administration of the office of chief magistrate of the republic has made it satisfactory to all classes.

The foreign relations of the country have been peaceful for. several years past, with the exception of a slight stringency existing in the diplomatic relations with Great Britain on account of the discovery of the fact that the plotters who are seeking by the employment of dynamite to frighten England into granting concessions to Ireland, have made the United States the base of their operations.

The country was never in a more prosperous and healthy condition generally than at present. The statistical department of this work speaks volumes for the growth and rank of the Union in all those things which make a nation great.







HE Dominion of Canada, now a semi-independent confederation of provinces subject to the British Crown, has an interesting history which reaches back to within a very few years of the discovery of America by Columbus. The French sea captain Jacques Cartier, in 1534, planted the standard of Francis I. of France upon the shores of New Brunswick, and in later voyages he discovered the St. Lawrence River. Attempts at colonization were made, but none were very successful until the time of Samuel de Champlain, when the city of Quebec was established, and the foundation laid of the empire of New France. His explorations were ably followed up by the Jesuit missionaries who were sent out later by the French Government, and the names of Fathers Joliet, Marquette, La Salle and Perrot, who first saw the Great Lakes and the Mississippi River, are indissolubly linked with the story of early discovery in North America. Cruel wars with the Indians constitute the leading feature of interest in early Canadian history, each of the leading claimants of North American soil -England and France-employing the willing savages to carry destruction into the settleme its of the other. Directly resulting from this cruel policy was the massacre of Lachine, in which the Iroquois, at the instigation of the English, fell upon the French settlements in the neighborhood of Montreal, and slaughtered their inhabitants, and which caused the cruel reprisals of Schenectady and Salmon Falls. During the frequent wars between England and France, the latter's Canadian colonies became more than once the object of English attack. but it was not until September, 1759, that the citadel of Quebec fell before the gallant English General Wolfe, and with it the French tenure of Canada, which was called the Province of Quebec, divided into three districts and placed under the direction of a Governor appointed by Great Britain. During the war of American Independence, the Americans, finding that the Canadians would not join the revolution, invaded Canada, but were unable to hold the country on account of their failure to capture the city of Quebec.

After the close of the war a great many persons from the English colonies settled in that portion of Canada lying north of Lake Ontario, which, upon the separation of the province in 1791, became known as Upper Canada, the eastern province taking the name of Lower Canada. Dissensions arose in both provinces over questions of government, but the war of 1812

united Canada in defence against a common invasion, in which the Canadians showed a patriotism and valor very creditable for so young a country. After the war, the same causes of dissension still existing, the old quarrels were renewed and the disaffection finally culminated in separate rebellions in each of the provinces. In Upper Canada a popular agitator named Mackenzie attempted to set up the republic, and in 1837 gathered a body of armed followers, who marched against the capital, Toronto, where they were defeated. More serious disturbances were caused in Lower Canada, when, under the leadership of Louis Papineau, the French Canadian "patriots" collected in masses on the Richelieu, and were not dispersed until after severe conflicts, in which several hundreds were slain. The union of the two provinces was decided upon by the home Government as a remedy for the troubles complained of, and this measure was accomplished in 1841, the new Constitution giving Canada one legislature instead of two. Under it the country progressed rapidly in population, commerce and general prosperity. About 1861 a strong party feeling arose between the two provinces over the claim for representation by population made by the inhabitants of Upper Canada, who, having largely outgrown the lower province in numbers, desired that their representation in Parliament should be proportionately larger. The Lower Canadians would not agree to any change of the Constitution in accordance with this plan, and the political struggle was growing dangerously bitter, when the confederation of the various British provinces in America, with local government for each, was suggested as an available remedy. The provinces of Canada, afterwards known as Ontario and Quebec, Nova Scotia and New Brunswick, accepted the proposed union. Newfoundland and Prince Edward Island rejected it. The matter was left with the British Government, which, in 1867, conferred the Constitution under which the Canadians now live, as well as the name Dominion of Canada. Since then the confederation has been enlarged by the admission of the Hudson Bay Company's Northwestern territories in 1870, now known as the provinces of Manitoba and Keewatin; of British Columbia in 1871, and of Prince Edward Island in

To the vast majority of Americans the country to the north of the international boundary line is a *terra incognita*, of which less is known than of the small revolutionary States of Central America. Of Mexican affairs the people of the

United States have sufficient reminders to spur interest or promote enquiry, in its biennial revolutions and military dictatorships, but of the quiet, progressive 5,000,000 of people owning the 4,000,000 square miles comprising the Dominion of Canada we know but little, and apparently care less.

However much it may be ignored, it is still an undoubted fact that a great nation is rapidly assuming consistency and form in that country. National sentiment and feeling have been developed, and now the habitants and bourgeois of Quebec vie with the agriculturists, manufacturers and tradesmen of Ontario and the Maritime Provinces in priding themselves upon being Canadians. Already they complain of being held in leading-strings by Great Britain, and the wish is generally expressed that Canada should have the appointing of its own Governor-General, the power of negotiating foreign commercial treaties, and that the slight ties now binding the Dominion to the Colonial Secretary's office in London be yet further loosened, until the political connection, now merely nominal, ceases to exist even in name. The appointment of Sir A. T. Galt as High Commissioner of Canada at the British Court, with functions approximated to those possessed by the representatives of independent powers, was a tacit claim by the Dominion of the privileges of a sovereign people.

ITS VAST AREA.

The Dominion, extending from the Atlantic to the Pacific oceans and from the United States boundary line to the Arctic seas, has a larger area than Europe, and even exceeds the United States exclusive of Alaska. Territory, however, does not of necessity imply a correspondence in greatness, wealth or power, and any speculations based entirely upon such data must prove fallacious. In order to form anything like a just estimate of the importance of the country the state of the settled and cultivated portions must be considered.

Canada proper, consisting of the provinces of Ontario and Quebec, containing more than three-fourths of the population of the Dominion, is 1,000 miles long, with an average breadth of 230. It contains an area of 350,000 square miles, or 240,000,000 acres. That portion of it included in Ontario may be considered the garden of Canada, both as to climate, soil and the variety of productiveness of its agricultural exhibits.

POPULATION.

The people of Ontario are very different from their French neighbors on the other side of the Ottawa, and are as noted for real American enterprise, industry and progressiveness as those are for the opposite. In 1825 the number of inhabitants in Ontario (at that time Upper Canada) was 158,027. In 1852 the number had reached 952,004, and at the present time is about 2,000,000. The growth of the cities is also remarkable. Toronto in 1826 had only 1,677 inhabitants, and in 1854 it numbered 40,000, and now it contains 100,000 people. Hamilton, within ten years, from 1844 to 1854, quadrupled its population, and its increase since, if less rapid, has been remarkable.

In 1875 the population of the entire Dominion was 4,000,000; in 1881 it was almost 5,000,000, and now probably exceeds that number. The material progress of the country has been on an

equally rapid scale. The agricultural products exported in 1882 amounted in value to \$16,398,613, or \$2,665,864 more than in the year previous. The wheat exported for the same period was equal in amount to 6,433,035 bushels, a quantity greatly in excess of that sent out of the country in the year before. In 1882 50,000,000 pounds of cheese were exported to Britain, and the production of butter in the Province of Ontario alone during that period amounted to an equal number of pounds. The lumber trade is one of the leading industries of the country, the value of that exported last year being \$10,729,596.

The Canadian exports for 1881 amounted to \$80,921,379, and last year to \$90,042,711. The balance of trade being against Canada, the imports for both years were \$17,000,000 in excess of those numbers.

The imports from Great Britain in 1881 were valued at \$43,583,808, and for 1882, \$50,597,341. During the same periods the imports from the United States were \$36,704,112 and \$48,289,052, respectively. The duty collected on imports from Great Britain in 1882 was \$10,011,811, or about 20 per cent of the value of imports. On goods from the United States for the same period \$7,082,720 was collected, or about 15 per cent.

The United States is the largest purchaser of Canadian goods and products, the value of the trade to the latter country being about \$40,000,000 in 1882.

The shipping interests of Canada are not the least considerable, \$30,000,000 capital being employed in the carrying trade, which is valued at \$350,000,000. Allowing 5 per cent for freight charges, it would yield a revenue of about \$17,000,000 a year. The trade of the city of Toronto alone with the United States was equal in 1882 to \$10,447,818, or almost \$4,000,000 more than in the previous year.

Ten years ago the Government expenditure was \$23,316,316; in 1883 the Finance Minister asked for \$30,250,000 to carry on the affairs of the country. This amount, it is estimated, will be a few millions less than the revenue. The civil government of the country is estimated to cost \$1,109,100 this year; Indian scouts, \$875,949, and the mounted police, \$416,000.

CANADA PACIFIC RAILWAY.

One of the most important factors in the prospective future advance of the country to a high condition of material progress and industrial wealth will be, undoubtedly, the Canada Pacific Railway. The route through the Dominion is, in a certain sense, preferable to that now connecting the Atlantic and Pacific in our country. It is said by competent authorities to be shorter by over a thousand miles in connecting Europe with Asia. Passing close to Lake Superior and traversing the watershed which divides the streams flowing toward the Arctic seas from those which have their exit southward, the route, though presenting serious engineering difficulties, is more easy of construction than the Union Pacific was. The effect of the completion of this road can scarcely be estimated at present, as it will open up for settlement a vast region abounding in valuable timber, coal and other material products, and admirably suited to grazing and the growth of grain. The work of construction on the Canada Pacific was

first commenced under the immediate supervision of the Government, but this plan was not found to work well, and shortly after the change of Government, in 1878, the new Ministry handed over the work of construction to a syndicate, granting to them money and land bonuses and exclusive rights on a monopoly of traffic for twenty years from the time of the completion of the road. It is now well under way, and is rapidly approaching the centre of the continent. The estimated cost is \$100,000,000, and it is a work of extraordinary magnitude for 5,000,000 people to project.

The settlement of the Northwest Territory along the line of the railway is proceeding at an unprecedented rate. Indeed, there is nothing to be at all compared with it unless it is the rapidity of opening up in some of the Western States. Free grants are given to actual settlers, which, with an inexhaustible soil, should be a sufficient attraction for emigrants from Europe. But of this class the Canadian Northwest country has so far attracted no considerable number. Of the 44,000 emigrants arriving in Manitoba and the Northwest last year, fully three-fourths were from Ontario and other parts of Canada.

NATURAL PRODUCTIONS.

There are extensive coal fields in the Valley of the Saskatchewan and at Edmonton, but so far they have not been worked to any extent. When capital has been directed into this channel, a cheap supply of coal can be secured, and one of the principal defects of that section of the Dominion will be removed.

The length and severity of the winter in Manitoba and the contiguous territory is also a serious obstacle to their settlement. Winter often begins in October, and continues until about the end of April, after which the weather changes rapidly, and the chilling, freezing atmosphere becomes soft and warm, with the southern winds sweeping over the interminable plains. Vegetation after this becomes so rapid as to be almost incredible, and in less than four, and occasionally only three, months after the seed has been sown, abundant crops of wheat, barley and oats can be harvested.

With all its defects, it is a magnificent country, and it requires no great powers of prevision to foresee in it the home of millions of free, prosperous and intelligent people.

Winnipeg, the leading city of the Northwest, has sprung up as if by magic, and is a very different place from the hamlet visited by General Wolseley and his troops, on the occasion of the Riel disturbance, a number of years ago. It has now a summer population of 20,000, and last year the boom in real estate was such that city lots were selling at a higher price than in Toronto. Many other cities now exist in embryo in that vast region, and with a liberal, wise policy on the part of the Government, the success of the Northwest is certain.

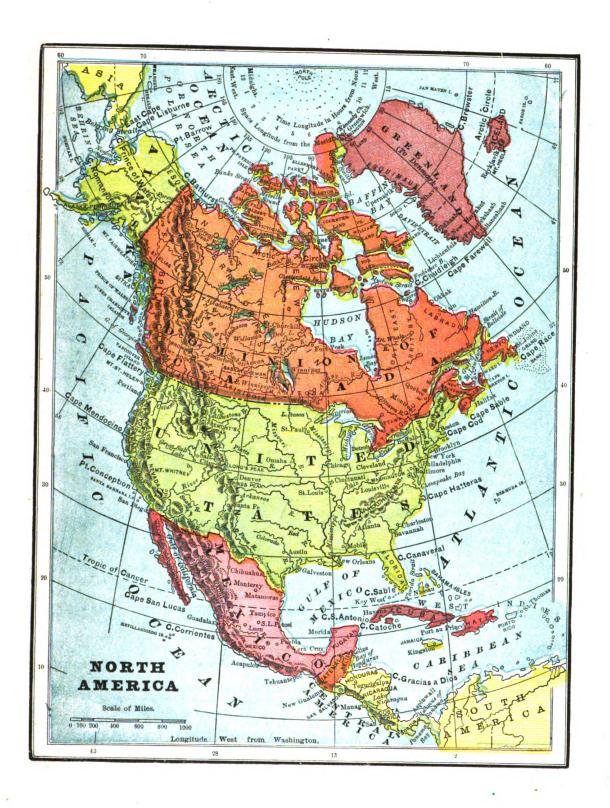
In the other sections of Canada, Ontario especially, the condition of the farming population has been entirely changed within the past twenty years. The log shanties of the squatter have been changed to elegant farm-houses of stone, brick and

frame. Frame barns have taken the place of the open log structures that so poorly protected the crops of the pioneers, and wire and picket fences surround the steadings instead of rails. Farm-houses now contain all that is requisite for comfort, with many of the elegancies of life added, and in many will be found not only a piano or parlor organ, but also a young lady quite capable of rendering music by note. Education has also become generally diffused, and it is but rarely that a person can be met with who cannot read and write.

That the Dominion is more prosperous now than ever it has been before, will scarcely be questioned by those familiar with its present and past conditions, and that it has now entered upon a new and vast phase of its progressive development, under the most auspicious circumstances, cannot for a moment be doubted.

GOVERNMENT OF THE DOMINION.

The executive power of the Dominion is vested in a Governor-General, who is appointed by the British Government, and exercises authority in the name of the Queen. His advisers constitute the Privy Council, whom he appoints and removes, subject to the convenience of the lower house of Parliament. The military command is vested in the Queen. Parliament, consisting of an upper and a lower house, known respectively as the Senate and House of Commons, controls legislation. Senators, who are appointed for life by the Governor-General, on the recommendation of the Privy Council, are 77 in number, apportioned as follows: Quebec and Ontario, 24 each; Nova Scotia and New Brunswick, 11 each; British Columbia, 3; Manitoba, 2; Prince Edward Island, 2. In the House of Commons are 206 members-88 for Ontario; 65 for Quebec; 21 for Nova Scotia; 16 for New Brunswick; 6 for British Columbia; 4 for Manitoba, and 6 for Prince Edward Island. A redistribution of memberships occurs after each decennial census, with the understanding that Quebec shall never have less than 65. All appropriation bills must originate in this house, to which the Privy Council is responsible, it representing the views of the political party which is in the ascendancy. Bills passed by Parliament may be vetoed at any time within two years. The seat of government is at Ottawa. The Dominion Parliament controls exclusively the currency, postal service, public debt, raising of money, regulation of trade and commerce, the militia, savings banks, marriage and divorce, criminal law, navigation and shipping, bankruptcy, and all subjects not specially assigned to the local legislatures. The latter have the right to levy direct taxes, and to borrow money for provincial purposes, the management of public lands, public works lying within the province, municipal institutions, prisons, hospitals, asylums and charities, and generally matters of a local or private character. With a few minor exceptions, all Judges are appointed by the Dominion Government. There is a general court of appeal, possessing powers similar to that of the United States Supreme Court, and which passes upon the constitutionality of laws passed by the provincial legislatures.



80 MEXICO.



O foreign country is attracting such close attention from the people of the United States just now as Mexico, sometimes familiarly alluded to as "the sister republic." Bounded on the north by the United States, on the south by Guatemala, on the east by the Gulf of Mexico and Caribbean Sea, and on the west by the Pacific, it occupies the tapering southern extremity of the North American continent—a region of mountain table-lands, rich in mineral wealth and agricultural resources, which, having lain for ages comparatively undeveloped, are now beginning to feel the impulse of a new civilization supplied from the United States, whose capitalists are building railroads in different parts of the country. The history of the country beginsno one knows when. Ages before the coming of the Spanish conquerors the settlement of the Mexican valley had been accomplished by Indian tribes who are said to have come from the north, the last of these being the Aztecs, who founded a city, established a monarchial government, enforced civil and criminal laws, kept a standing army, and cultivated the arts and sciences, their skill in the working of metals and their profound knowledge of astronomy being attested by venerable relics which are extant at the present day. About the only dark feature in this pleasing picture of prehistoric civilization and culture is that provided by their religious observances, which included human sacrifices, the practice being so common that the observance of certain days caused the immolation of thousands of victims. Such were the accomplishments of the wonderful people whom De Cordova met in Mexico when he discovered it in 1517. Two years later Fernando Cortez effected a landing upon Mexican soil at a spot where the city of Vera Cruz now stands. Here he burned his ships to give a disaffected portion of his command to understand that nothing was left them but obedience, after which he marched into the interior. On his way he fought several engagements with the natives, and finally arrived at the City of Mexico, where the Azrec Emperor, Montezuma, received him with apparent kindness. Fearing treachery, Cortez caused Montezuma to be seized and conveyed to the Spanish quarters. Cortez' conquests were delayed by the opposition of the Governor of Cuba, who sent a party to seize him and his staff and send them back to Cuba. The brave Spaniard turned the tables upon his pursuers, vanquishing them and taking their leader, Narvaez, prisoner. Montezuma, after a long imprisonment, consented to acknowledge Spanish supremacy, but the Aztecs declined to submit so

easily, and, making a final effort, compelled Cortez to retreat. He returned, however, a year later, and, after a series of battles, reached once more the City of Mexico, which he captured, August 13, 1521, after a siege of seventy-five days. The other provinces fell in succession before the invader, and for nearly 300 years subsequently Mexico remained in subjection. The government which the Spaniards first inaugurated was known as "Audiencia," with a President and four Auditors, but the measures of this body soon proved so harsh and arbitrary that the colony complained loudly of their oppression. A vice-regal government was inaugurated in 1535, which lasted undisturbed for nearly three centuries.

Events in Europe at the opening of the nineteenth century shaped the history of Mexico. The uprising of 1810 is thus graphically described by Mr. John A. Dillon, a journalist whose thorough knowledge of Mexican affairs, no less than his eminent literary attainments, makes him peculiarly qualified to treat the subject:

"The revolution was long in coming. Shut off as it was from the world, Mexico could not help noting that the power of Spain had grown weaker and weaker, until at last the rough hand of Napoleon pushed the feeble Bourbon from the throne. The latent fires of revolution broke forth on the 15th of September, 1810, in the village of Dolores, near Guanajuato, where a curate named Manuel Hidalgo set up the Grito de Dolores, as it is called in Mexican history, or the 'call of Dolores.' What the call meant was little known, either to him who started it or to those who heard it. It meant anything but a republic to Hidalgo; it meant the cause of religion, and loyalty to some Mexican sovereign. To the Indians who heard it, it meant death to the strangers, the Gachupines, as they called the Spaniards.

"Then was started the most bisarre and motley revolution in history, outshaming Jack Cade. Swarms of ragged and swarthy Indians gathered around the priest, armed with sticks and stones and knives and clumsy pikes. They swarmed down to Guanajuato in thousands and tens of thousands, and the slaughter of Cortez was repeated on their defenceless bodies. Cannon and musket tore their ranks in vain, for they rushed up to the loaded cannon's mouth and stuffed in their battered straw hats and ragged serapes, to keep the balls from coming out. By sheer force of numbers they destroyed the troops, and then in savage triumph sacked the city of their brothers.

MEXICO. 81

"Brief and sad was the career of the soldier-priest. Under the banner of the Virgin of Guadalupe he led his hordes from Guanajuato down to Valladolid, and thence to Queretaro, and in six weeks had reached the mountain of Las Cruces, within thirty miles of the capital. Here the Viceroy gave him battle, and here again the ragged hordes rushed on the batteries and killed every man behind them, only three officers of the Viceroy's army of 3,000 escaping.

"Then fear came on the victor for the unknown power of a city such as he had never seen the like of. He came within sight of Mexico, lingered there for a month, and then turned to retreat. A bloodhound was set on his trail in the person of General Calleja. The fugitive rebels passed back through Guanajuato, and the bloodhound Calleja followed them and cut to pieces 14,000 men, women and children in the city. In his report he said that he had them hacked with knives and swords, because gunpowder was very dear, and he did not want to put the Government to the needless expense of using ammunition.

"On the 17th of January Hidalgo reached the place called the Bridge of Calderon, and there his last battle was fought and lost. He fled toward our frontier, but his commanders rebelled, and one of them, Elizondo, delivered the whole band up to the Government on the 21st of March, 1811. It is needless to say that they were shot, and their heads were afterward exposed in iron cages on the castle wall of Guanajuato."

The population was made up of four classes - the Spaniards of European birth; the Mestizos, or half-breeds, the result of union between the Indians and whites; the Creoles, who were the pure-blooded descendants of the original Spanish settlers, and the pure-blooded Indians. The last-named had experienced but little change of condition under the Viceroys, and were still subject to the payment of tribute and held in a sort of life-long tutelage. Degrading restrictions weighed upon them from which only their nobles were exempted. The Creoles, as proud of their origin as the native Spaniards were of their birth, were treated contemptuously by the latter, and denied all part in the government, or even high command in the army. Many of them had amassed great wealth, and while titles and other empty honors were conferred upon such, the Government deemed it imprudent to allow them a share of the administration of public affairs. This treatment was resented by the Creoles, and open rebellion would have been gladly availed of by them, had they not dreaded that, at such a turn of affairs, an uprising of the Indians and half-breeds would occur, and they and the native Spaniards be together overcome and destroyed. While the revolution of 1820 was going on in Spain, which lost Ferdinand his throne, the Mexicans agitated in favor of a liberal government, and Don Augustin Iturbide, a native Mexican officer of rank, who had served with distinction in quelling the earlier uprisings, inaugurated a second and successful revolution, which resulted in the declaration of Mexican independence, February 24, 1821. His authority obtained the national recognition; in August he established a regency, and May 19, supported by his army and his followers, in the City of Mexico, he was proclaimed Emperor. December 2, 1822, Santa Anna, supported by other chiefs, proclaimed the Republic at Santa Cruz, and March 19 Iturbide abdicated. Shortly afterwards he was ordered into exile, and in May, 1823, he left Mexico for London.

The Constitution which Congress formulated October 4, 1824, was modelled after that of the United States, and established in Mexico a republic with nineteen States and five Territories. The first President was Don Felix Fernando Victoria, during whose administration Iturbide returned to the country and was arrested and shot. At the second presidential election the candidates were Generals Padraza and Guerrero. The former was elected, but Guerrero instituted a revolt, and seized the presidency in 1829. That year the Republic received the recognition of the United States, and defeated an attempt of the Spaniards to recapture the country with an army of 4,000, who were sent back to Havana. General Anastasio Bustamante, who had assisted in the expulsion of the Spanish invaders, declared against Guerrero, and deposed him. Intrigues and revolts followed in quick succession, Santa Anna coming to the front April 1, 1833, who, after banishing Bustamante and several other political leaders, instituted an administration of sweeping reform. Laws were passed suppressing the convents and abolishing the payment of tithes, and measures discussed looking to the appropriation of church estates and their application to extinguishing the national debt. These failed to prove popular, going further than the people cared to follow. Insurrections followed, and troubles which led, in 1835, to the abrogation of the Constitution which had been adopted in 1824, and the formation of a consolidated republic, which took the place of the confederation of States. Santa Anna possessed dictatorial power, and the revolution was endorsed by the whole country except Texas, whose citizens declined to accede to the centralization of power. Santa Anna then invaded the State with an army, which was destroyed, and Santa Anna was captured. Bustamante became President, but Santa Anna, after a trip to Washington, where he conferred with President Jackson, was released, and returned to Mexico. Another period of chronic revolution soon set in, a dictatorship was established for a while, and in 1844 constitutional government was resumed, with Santa Anna at its head. He was banished, however, and Herrara happened to be the President at the time war was declared against the United States after the annexation of Texas.

The American arms were successful, and Mexico lost, in addition to Texas, New Mexico and Northern California, when peace was declared, in February, 1848. Santa Anna was recalled in 1853, and for the fifth time elected President. He attempted now to secure the position for life, with the right to name his successor, and this led to another revolution in 1855, when Alvarez deposed him and became President. He resigned in favor of Comonfort, who gained the opposition of the ecclesiastical party by his promotion of a law, which was adopted in 1856, for the sale of church lands and the freedom of religious belief. Revolutions followed, and in 1857 Congress promulgated, and the President was forced to accept, a very democratic Constitution.

In the following year Benito Juarez, Chief Justice of the Supreme Court, claimed the legal succession to the presidency, but was defeated by the incumbent, Zuloaga, and driven to Vera Cruz, where he established himself as Constitutional

President. His claims were strengthened by their acknowledgment by the United States, and, after defeating General Miramon in several engagements, he entered the capital in triumph, January 11, 1861. His administration was noted for the reforms which he carried out, and which gained him the love of the Mexican people. Among the most important of these were the appropriation of church property to the service of the State, by which more than three hundred millions' worth of real estate was saved to the people; making marriage a civil contract; the abolition of ecclesiastical tribunals and perpetual monastic vows; and, finally, the complete separation of Church and State. Much as the people enjoyed their liberties, the Church party could not brook so great a curtailment of their property and prerogatives, and they resolved upon the destruction of Juarez' Government. Their opportunity was not long wanting. Subjects of Spain, France and Great Britain having sustained alleged losses and injuries in Mexico, for which Juarez declined to give satisfaction, these three powers, at a convention held in London, October 31, 1861, decided to send a joint expedition to Mexico to demand it. In December of that year, General Prim, commanding a Spanish detachment from Cuba, landed at Vera Cruz, and a month later French and British troops followed. A settlement being effected with Spain and Great Britain, the forces of these powers were withdrawn from the country. The French army remained in Mexico, declared war against Juarez, and captured the City of Mexico June 10, 1863, President Juarez and his Ministers retiring to San Luis Potosi. June 24 a regency was formed, and July 8 an assembly of notables was convened to decide upon Mexico's form of government and resolved that it should be a hereditary monarchial government under a Roman Catholic Emperor. The Archduke Maximilian, of Austria, accepted the crown. Juarez and his republican supporters retired to El Paso, where they remained from September, 1865, to the beginning of 1866, when, the United States having secured the withdrawal of French troops from Mexico, they assumed the aggressive. Maximilian was captured and shot, together with his Generals, Miramon and Mejia, June 19, 1867, three days after Juarez had re-entered the City of Mexico. The work of national reconstruction was at once commenced. An attempted revolution by Santa Anna was quelled and its instigator captured and exiled. In 1871 Juarez was again elected, his opponents being Porfirio Diaz and Sebastian Lerdo de Tejada, the latter of whom, on the death of Juarez, July 18, 1872, became President.

Although a brilliant scholar and statesman, Lerdo misunderstood the sentiments of the Mexican people, mistook the spirit of the age, and seemed to oppose the material progress of the country, endeavoring to stem the tide of reform and advancement and opposing the railroad movement. General Diaz seized this opportunity, and in 1876 organized a revolution. After a series of victories and defeats, the revolutionary chieftains met the Government forces at Texcoac, and came out victorious after a sanguinary conflict. During his short administration Diaz began the work of regeneration, and initiated the railroad movement, which was ably conducted onward by his successor, General Gonzales, elected to the presidency in 1880.

Mexico is a federal republic, and the General Government is administered according to the provisions of the Constitution of 1857, which was twice overthrown and restored, and which was considerably amended in 1873-4. The President is chosen by indirect popular suffrage every fourth year. Both houses of Congress and the Supreme Judiciary are elected in the same manner. The Senate and the Supreme Judiciary are elected for terms of six years, and the House of Deputies for two years. The States have local constitutions, with elective Governors and legislatures.





NDER the name of Central America are included the republics of Guatemala, Honduras, San Salvador, Nicaragua, Costa Rica, and the territory known as British Honduras. In 1502 Columbus discovered the Eastern shore of Central America, and shortly afterward the Spaniards took possession of it, retaining it until 1820, when it rebelled and many of the States which then composed it were annexed by Mexico. Three years afterwards was formed the Central American Confederation,

but in 1839 Nicaragua withdrew, as did also Costa Rica in 1840 and Guatemala in 1847. In 1872 Guatemala, Costa Rica, San Salvador and Honduras became united, forming the Central American Union, the object of the union being the maintenance of peace in the several States and of the republican form of government. Since this was accomplished, the several States have generally enjoyed an immunity from the internal discords which frequently plunged them into civil

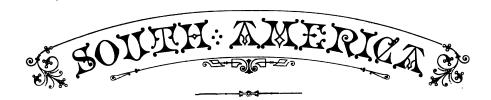




UBA, the greatest of Spain's colonial possessions, was discovered by Columbus while on his first voyage, but it was not until 1511 that Velasquez conquered the natives. Eight years later the present capital, Havana, was founded, which in 1538 and 1554 was destroyed by the French. Near the close of the sixteenth century the cultivation of the sugar-cane was begun, and slavery followed. In 1762 the English captured Havana, and took possession of the island, but restored it to Spain in the following year. Cuba's brightest and happiest era began with the rule of Las Casas as Governor-General, who arrived at the island in 1790. Under him the island's resources were developed rapidly, old restrictions were removed, and the natives, grateful for their new liberties, developed a strong affection for their foreign rulers. In 1808, when Napoleon deposed Ferdinand of Spain, they remained loyal to the Spanish crown. Since that time Spanish misrule has caused Cuban discontent, and when the French republic was proclaimed in 1848 the question of annexation to the United States was openly advocated, and President Polk offered Spain one million dollars for the island, which was declined. Ten years later a proposition to purchase the island for thirty millions was submitted to the United States Senate, but nothing was done in the matter. Four years previously the American Ministers at London, Paris and Madrid had drawn up what is known as the Ostend Manifesto, which urged that Cuba should belong to the United States, and that, if Spain declined to sell it, it should be wrested from her. In 1868 the discontent of the natives culminated in open rebellion, which soon spread over the entire island. In 1869 Cespedes, who had headed the uprising, was elected President, and Manuel Quesada was given command of the forces. Offers from the United States to settle the strife amicably, and for the cession of the island, were rejected by Spain, which continued to mass troops upon the island to quell the insurrection. Peace overtures were made to Cespedes in 1873, on the condition that Cuba should become a Spanish republic, but they were declined. Eventually the Spanish arms prevailed, but not until over 13,000 Cuban soldiers had been killed in battle and over 43,000 prisoners slain, in accomplishing which horrible result more than 150,000 men had been sent over from Spain and over twenty millions of dollars expended. Peace has been nominally restored, but the native Cuban still groans under the foreign yoke, and sighs for the free institutions of the land of the free, from which he is separated by a very few miles of ocean.

As a province of Spain, Cuba is governed by a Governor-General, who is appointed by the Crown for a period of from three to five years, is subordinate only to the Spanish King, and has despotic power as the head of the civil, military and ecclesiastical jurisdictions. No municipal government is allowed, although town councils prevail in the cities.





OR obvious reasons, no history of South America as a continent need be given. It will be readily gleaned by the reader from the following histories of the various countries contained within its boundaries. It may be stated, however, that the table-land of Bolivia was the nucleus of the earliest civilization in South America. From there came the Inca rulers of Peru and Ecuador, which

places, together with Colombia, provided the Spanish explorers with the only evidences of culture and civilization. These and the Portuguese made easy conquests wherever they went in South America, and established colonies, which, however, declared their independence early in the present century, and obtained their freedom after fighting for it bravely.

*** * BRAZIL. * ****

OTABLE as the largest of the divisions of South America, and as the only empire now existing in the Western hemisphere, Brazil's history is of peculiar interest to the historical reader. Pedro Alvarez de Cabral, who had been sent out by King Emmanuel of Portugal to follow up the discoveries of Vasco da Gama, discovered the land in 1500, and the richness of its forests in dye-woods soon attracted the attention of commerce. A Governor of the territory was appointed in 1549, who founded the present capital of Rio de Janeiro. Numerous attempts were made by the Dutch and French to take the country, but it was retained almost in its entirety by Portugal, whose King, on the occasion of Napoleon's invasion of his country in 1808, fled to Brazil, and virtually transferred the monarchy to his colonial possession. Seven years later Brazil was made a kingdom and its ports thrown open to the world, and in 1821 the King went back to Portugal, leaving behind him his son, Dom Pedro, as regent. A revolution, or rather a transition, occurred in the same year, and in 1822 Brazil was proclaimed an independent empire, and Dom Pedro was invested with the imperial crown. A Constitution was granted in 1824, when the home Government acknowledged the independence of the young empire. In 1826 Dom Pedro became King of Portugal

by the death of his father, and he resigned the European

crown to his daughter. In 1831, after long and harassing wars with adjacent countries, the Emperor abdicated in favor of his son, Dom Pedro II., then but six years old, and the country was ruled by a regent until he came of age, in 1841. Prosperity has rewarded the generally wise reign of this monarch. Political troubles have occurred from time to time, but on the whole the government of the twenty provinces under imperial control has been happily conducted. Wars have been carried on with neighboring countries, the most known of which was that with Paraguay, which lasted five years, and resulted in Brazilian aggrandizement.

Brazil's Constitution, which has lasted since 1824, divides the governing power into four branches—the legislative, executive, judicial and moderating, the latter expression defining the imperial prerogative. Imperial affairs are controlled by the General Legislative Assembly, which consists of two houses, the Senate and Congress, whose members are all elected by popular vote, the Senators for life and the Members of Congress for four years. Provincial assemblies regulate the affairs of the respective provinces. Naturalized foreigners and non-Catholics are not eligible as Deputies. Executive power lies in the Emperor, who is assisted by seven Ministers and a Council of State. Over each province is a President appointed by the General Government.



N 1533 the Incas of Peru lost their control over Chili, and a few years later the Spaniards occupied the country, the city of Santiago being founded by them shortly after their arrival. A treaty was established with the natives in the early part of the eighteenth century, by which boundary lines were established and the rule of the Spanish Viceroy acknowledged. A preliminary movement to the declaration of independence was made in 1810, when the Chilians deposed the Captain-General and placed the executive power in the hands of a committee of seven. War between the mother country and the colony commenced in the following year, and two years later the latter was entirely under the control of the

royalist troops. Nothing daunted, the colony, in 1817, rebelled again, and, after a severe struggle, defeated the royalists and secured their independence. At first the Government took the shape of a directorship, but confusion prevailed until 1833, when a new Constitution, whose formation was begun two years previously, was adopted. Under the amended form of government an improved condition of affairs was established, which has endured up to the present day.

Allusion has been made, under the head of Peru, to the war in which that country was conquered, but a fuller mention of it may be afforded here, as the event is one of great importance in connection with South American history. In 1879



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hostilities began between Chili and the allied republics of Bolivia and Peru, growing out of rival territorial claims, and claims to guano beds and mineral deposits. Chili insisted that, having done more than either of the others to repel the enemy, she was entitled to generous treatment. When the war came she had an army of 22,000 and a navy of ten small steamers and two powerful iron-clads, which gave her a vast advantage over the enemy. The war was conducted with great spirit and intrepidity, the naval conflicts between the two powers being especially remarkable for the ferocious carnage displayed on both sides. In the spring of 1881 Callao and Lima were taken, and the Chilians were masters of the situation. By the terms of peace Chili exacted from the conquered countries the abso-

lute annexation of the territory containing all the nitrates and the great bulk of the guano, the occupation of other territory for a period of years, and of the Loblis islands as long as there is any guano on them; also the payment of a monster war indemnity—terms which virtually crush the countries which have been forced to submit to them.

Executive power is vested in the President, who is advised by five Cabinet Ministers, and subject to the check of a Council of State composed of eleven officials, six of whom are chosen by the Senate and Chamber of Deputies. The Senate consists of twenty members chosen for nine years, and the Chamber is composed of Deputies, elected for three years, in the proportion of one to every 20,000 inhabitants.

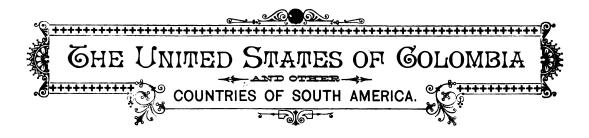




N 1524, Pizarro made a visit to the coast of Peru, but it was not until 1531 that he returned with intention of conquest. His aim was aided at the time by the divided condition of the country, for the possession of which rival Incas were struggling. With less than 200 men in his command, the Spanish adventurer made the friendship of one of the Incas, whom he took prisoner. Promising to release him for a ransom, he acquired from the natives metals and valuables worth nearly eighteen millions of dollars, after which he treacherously slew his prisoner. After subjecting the country to misrule, accompanied by atrocious cruelties, Pizarro was assassinated in 1541. Spanish rule became firmly rooted, however, and in the early part of the eighteenth century the colony of Quito was separated from Peru and added to the adjoining colony of New Granada. Another partition of the colony resulted in the formation of the separate governments of Venezuela, Guatemala, Caracas, Cumana and Chili. Peru was the last of the colonies to rise against Spain, but in 1821 patriots from Chili and Buenos Ayres entered the country and drove the Spaniards from the capital. In 1824 the dictatorship was assumed by Bolivar, who, two years later, drove the Spaniards from their last stronghold, after which he formed a republic called Bolivia of the southern and southeastern portions of the colony, and resigned the dictatorship. Revolution in Peru occurred in 1826, and in place of the Constitution prepared by Bolivar, a new one, similar in form to that of the

United States of America, was adopted. Civil war followed, but peace was finally brought about by General Castilla, who became President in 1845 and ruled the country until 1851, when, a vicious government succeeding him, another revolution occurred. Complications with the United States arose in 1858, through the seizure of several American vessels by ships belonging to the revolutionary forces, but in 1873 the American claims for damages were settled. Castilla's star once more shone in the ascendant, and the country enjoyed good government until 1862. In 1867 a Constitution was adopted and a treaty of commerce and friendship was made with Chili. After revolutions, assassinations and other exhibitions of anarchical tendency, the country came, in 1879, into conflict with Chili. With the Bolivians as allies, the Peruvians made a gallant stand, but in 1881 the Chilians defeated and dispersed the Peruvian army and drove the President from the capital.

Executive power in Peru vests in the President, who, with the Vice-President, is elected by the people for a term of four years. Legislative power is vested in a Senate composed of Deputies of the twenty-two provinces, two for each, and a House of Representatives nominated by the people, in the proportion of one for every 20,000 inhabitants. Five members who are nominated by the President form the Cabinet. Great liberality is the characteristic of the Constitution, except in regard to religion, as it provides that any other religion than the Roman Catholic, which is declared to be the religion of the State, is to be strictly prohibited.



NE of the most enlightened and progressive countries in South America is the United States of Colombia. In 1536-7 the country was conquered by the Spaniards, who held it until 1809, when a war of independence, lasting eight years, gave its inhabitants their liberty. At that time the country, then known as New Granada, was united with Ecuador and Venezuela, but a separation took place in 1829, and the

then known as New Granada, was united with Ecuador and Venezuela, but a separation took place in 1829, and the United States of Colombia, as at present organized, was formed. Civil wars desolated the country from 1860 to 1870, but peace has prevailed generally since then, and the country has been prosperous. A Constitution was promulgated in 1863 by which the executive authority is vested in a President elected for two years, while the legislative power lies in a Senate consisting of three members from each State, and a lower House of Delegates, each of the nine States sending a member for every 50,000 of its inhabitants. The States have each their own legislature and executive officer.

VENEZUELA was discovered by Columbus in 1498, and a settlement was effected by the Spaniards in 1520, who held the country until 1823, when the Venezuelans, who had declared their independence in 1811, secured it after a severe struggle of eleven years' duration. It separated from New Granada and Ecuador in 1880. Many civil wars have devastated the country, which has hardly yet settled down to the peaceful enjoyment of the liberties guaranteed by the Constitution of 1864, by which Venezuela became a federal republic, whose executive power is vested in a President holding office for four years. Legislative power lies in a Senate and House of Representatives, whose Deputies are named by corresponding State bodies.

ECUADOR was, many years previous to the coming of the Spaniards, the seat of an Indian monarchy, whose King was overthrown in the tenth century by Indians, who established a government and ruled the country until it was conquered in the latter part of the fifteenth century by Huaqua Capac, Inca of Peru. His sons divided the country between them and quarrelled, the war resulting in the victory of the one of them to whom the province of Quito had fallen. He reunited both countries, but in 1852 Pizarro seized and slew the Inca, and Spanish rule prevailed until 1809, when the colonists arose

in rebellion and obtained their independence in 1820. Ecuador became an independent State in 1830, and civil war followed, lasting twenty years, after which came war with Peru. Tranquillity followed, and prosperity has of late rewarded the country's efforts in the direction of commercial and social advancement. The Government is a republic, with the executive in the hands of a President, who is elected for four years. Legislative power rests in a Senate and a Chamber of Deputies, who have respectively eighteen and thirty members.

PARAGUAY was discovered in 1530, and settled in 1536 by the Spaniards, whose missionaries found the natives mild and peaceful of disposition and well disposed to receive the truths of Christianity. In 1811 the country declared for independence, and was for twenty-nine years kept under the rule of Jose Gaspar Rodriguez Francia, who sustained during the whole period a policy of non-interference with foreigners. The country was accessible only by way of the river Parana, and ingress and egress by it were so thoroughly stopped that during the long period of his rule no foreigners whatever were allowed to enter, and only half a dozen were permitted to leave. Such shipping as was in the river at the time this policy was inaugurated stayed there, rotted and fell to pieces. This unique condition of affairs was only ended by Francia's death, when the dictatorship was seized by Antonio Lopez, who held it under the title of President until 1862, when he died, and was succeeded by his ambitious son, Francisco Solano Lopez, who set himself up as protector of the "equilibrium" of the La Plata region. War with Brazil, Uruguay and the Argentine Republic ensued, which lasted for five years, closing in 1870, when Lopez was killed and peace restored. At the mercy of its conquerors, Paraguay ceded a portion of its territory to Brazil, and agreed to pay in all an indemnity so enormous that it is now bankrupt and with no prospect of regaining the financial prosperity it enjoyed previous to the war. Executive power rests in a President, who is elected for six years, and the legislative function in a Congress composed of a Senate and Chamber of Deputies.

GUIANA, consisting of three divisions, belonging respectively to Great Britain, France and the Netherlands, has no specially interesting historical reminiscences. British Guiana, the largest and most valuable of the three possessions, was

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acquired by Great Britain in 1803. It is ruled by a Governor appointed by the Crown. French Guiana was acquired in 1704. It is not a very valuable possession, and its main use to France is as a penal settlement. Dutch Guiana, which lies between the others, is a rich country, and is ruled by a Governor-General and Council.

Formerly known as Buenos Ayres, the ARGENTINE REPUB-LIC was discovered in 1512, and twenty-three years later its settlement began, as a part of the Peruvian domain. Such it remained until the end of the fifteenth century, when the viceroyalty of Buenos Ayres was formed by the consolidation of the land now divided among the Argentine Republic, Paraguay, Uruguay and Bolivia. War for independence from Spanish rule began in 1809 and ended in 1812, with the revolutionary arms in the ascendant. In 1817 a Dictator was elected, subject to the limitations of a provisional constitution, and three years later a democratic government was inaugurated. After a war with Brazil the Argentine provinces in 1831 formed a confederation, and the power fell into the hands of General Rosas, commander of the army, who exercised it despotically until 1852, when he was deposed, at which time the province of Buenos Ayres seceded from the confederation. It returned, however, later, and by a recent treaty the confederation was increased by the acquisition of all of Patagonia, except a strip along the Straits of Magellan, and all of the island of Terra del Fuego east of the Andes. Subsequent to the deposition of Rosas, the confederation engaged in a number of foreign wars, and suffered from many internal disturbances, but of late peace has been enjoyed to a fair extent. A President, who is elected for six years by the provincial representatives, holds the executive power. Legislative power rests in a National Congress, which comprises a Senate of twenty-eight members and a House of fifty-four Deputies. The provinces, fourteen in number, are ruled by Governors, who are elected for fourteen years.

URUGUAY has a history even more bloody and bellicose than any other of the South American dominions. It was first settled by the Jesuits in the early part of the seventeenth century, but Spain and Portugal both claimed possession of it later, and after much fighting the former succeeded in making its claim good in 1724. About a century later Brazil annexed it, but it revolted and secured its independence in 1828. Since that time until quite recently revolution continued to be the normal condition of the country, and at times civil war was conducted with such ferocity that the intervention of foreign powers became necessary as an act dictated by feelings of humanity. Although in theory a republic, with a President and a Senate and House of Delegates, the real power lies with whatever General happens at the time to have the control of the military.

Bolivia, named after Simon Bolivar, sometimes called the "Liberator of South America," for the leading part which he took in helping the efforts made by the different States in the direction of independence, was held by the Spaniards until 1825, when it became independent. Since then revolt has almost entirely occupied the attention of its people. In the war with Chili it was virtually annihilated, the conditions of peace imposed being such as to keep the country in everlasting subjection. A President enjoys the executive power, and legislative functions are vested in a Senate and House of Representatives, elected by the people.

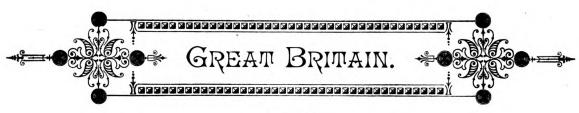




European civilization and power, but in the seventh century before Christ a rival sprang up in Italy, which in the course of time attained such vigor that Greece at last was humbled to the condition of a Roman province. From 200 B.C. to 100 A.D. the Roman Empire enjoyed its greatest glory, extending its power until almost all Europe came under its rule. From the unconquered portion to the north, however, poured legions of barbarians, who overran the Roman Empire and laid upon its ruins the foundations of modern Europe. What are known as the dark or middle ages of European history

REECE has the honor of being in the van of

lasted from the fifth to the fifteenth century, and these are pregnant with historic interest, the extension of the Christian Church, with the accompanying development of rational civilization, being accomplished during those centuries. Many valuable inventions made during this period assisted in the beneficent work, among the most important of which was that of printing. Among the most advanced of European nations during this time were the republics of Italy, which led the world in commerce, the arts and civilization. Such is a general summary of the continent's history up to the end of the middle ages. Fuller facts regarding individual national progress during and subsequent to this period will be found under the proper heads elsewhere.





HE island now known as Great Britain was known to the ancients previous to the date at which its written history begins, the Phoenicians, Carthaginians and Massilians having visited its shores in their trading vessels. It was not, however, until the year that its real history commenced, with the conquest of

55 B.C. that its real history commenced, with the conquest of the country by Julius Cæsar, and the establishment there of the Roman rule, which lasted until A.D. 420, when the pressure of Rome's enemies caused the withdrawal of the legions from Britannia—the name which Cæsar gave to the island in the stead of Albion, by which it had formerly been known. The departure of the Romans left the British a prey to the Picts and Scots, whose incursions, aided by internal dissen-

sions among the British chiefs, reduced the country to a condition of anarchy. One of these chiefs, seeking assistance to enable him to cope with the northern invaders, effected an alliance, in A.D. 446, with Hengist, a prince of the Jutes, who, with Horsa, his brother, after driving back the Picts and Scots, turned his arms against the Britons, whom they overcame in a series of sanguinary battles. In 457 Hengist declared himself King of Kent, and in the course of time the conquest of England was fully accomplished by the Saxons, Jutes and Angles, who established three Saxon, one Jutish and four Anglian kingdoms. About the year 830 the

ruling power was consolidated, and Egbert, ruler of the Saxon kingdom, Wessex, became King of all England. During his reign began the invasions of the Danes, who, gaining increased power after the death of Alfred the Great in 901, held the country from 1017 to 1041, when the crown reverted to the Anglo-Saxons and to Christianity, which had already been introduced in the person of Edward, surnamed the Confessor. His reign was merely nominal, the country being governed by Danish and English Earls, and when he died one of these, Harold, Earl of Wessex, seized the throne, which was soon wrested from him by William, Duke of Normandy, in France, who defeated him in the battle of Hastings, and established the Norman line of Kings. The Norman invasion was followed by the division of

the lands among William the Conqueror's followers, as feudal lords, the foundation thus being laid of a rich and powerful landed aristocracy, which has continued to successfully defend its ascendancy in spite of all opposition. As years went by the Normans and Saxons became merged into one people.

In the court, French manners and the Norman-French language prevailed, while the Saxon tongue remained in use among the laboring classes; but the writings of Chaucer fixed the English language, which, however, had received a strong impression from the invaders. The reigns of the Norman and Plantagenet monarchs were a series of contests between the Kings and the Barons, and the concessions which the latter wrung from royalty constitute some of the strong-

holds of British liberty. One of the most important of these was the Magna Charta, which the Barons forced King John to sign at Runnymede in 1215, and which secured to the English people two great rights: first, that no man should suffer arbitrary imprisonment; second, that no tax should be imposed without the consent of the National Council. In 1265 King Henry III. was imprisoned by the Barons, and the first English Parliament was convened; and though, in the same year, his son Edward defeated the Barons and restored his father, the latter was glad to conciliate his foes, and confirmed the great charter. During Ed-



QUEEN'S CASTLE, BALMORAL.

ward's reign Wales was conquered and annexed to England, and Scotland was menaced, but preserved her integrity through the skilful generalship of William Wallace and Robert Bruce. The shaping of the English Parliament was greatly advanced during this reign, the National Council taking its modern form by the separation of the greater Barons from the tenants-in-chief, who thereafter took part in Parliament only through representatives. In 1295 the first session of the Commons in a separate chamber was held, and in 1296 was passed the statute providing that no tax should be imposed which was not sanctioned by the Barons, Bishops and Burgesses. Popular government made another step forward in the reign of Henry IV., the first King of the house of Lancaster,

in the enactment of the statute granting the parliamentary right of election for counties to all freeholders, and the recognition of the two houses of Parliament as bodies possessing distinct privileges, which were not to be interfered with by each other. The reform of church abuses, which had been inaugurated by Wycliff, was opposed by Henry IV., while Parliament passed the act for the punishment of heretics, which for two centuries, almost, was made the instrument for the affliction of unutterable cruelties. The aspirations of the house of York to the throne led to the sanguinary civil conflicts known as the Wars of the Roses. The Yorkists triumphed in 1461, and in Henry VII.'s marriage the two houses were joined together. The Tudor dynasty thus formed produced some remarkable reigns. Henry VIII., who in the early part of his reign earned the title of "Defender of the Faith," for his loyalty to the Pope, broke with Rome later, and assumed the title of "Head of the Church," and in 1535 the Papal authority was set aside by act of Parliament. In the reign of his daughter, Queen Mary, a devout Catholic, a strong effort was made to undo the work of reformation in England. The legislation of Henry VIII., and of the regency which succeeded him, was repealed, and many who opposed the new deal were burned at the stake. Dying without issue, Mary was succeeded by her Protestant half-sister, Elizabeth, who restored the supremacy of the Church of England, which about this time accomplished the reform of the service books of the church, and of its doctrines, which resulted in the preparation of the thirty-nine articles, in substantially the same form as they exist at present. The nation was threatened in Elizabeth's reign by the Spanish Armada, which Philip II. of Spain fitted out for England's invasion, but which, overtaken by a storm, was dispersed, and its great vessels made an easy prey for the lighter and more manageable English ships. Under Elizabeth Ireland was subjected, commerce with India established, and colonies planted in America.

The Stuart family of Scotland succeeded that of Tudor, and with them culminated the struggle between royal prerogative and popular right. The power of the feudal Barons had already been destroyed, and the bulwark of British law and liberty now was the middle class. The Stuart monarchs, James I. and Charles I., by no means understood the spirit of their age, and their constant exercise of despotic power brought them in collision with the united trading and laboring classes. King Charles attempted to dispense with the Parliament, and ruled for many years without one, but in 1642 the people arose against him, and in 1645 the Roundhead (Puritan) army, under Oliver Cromwell, overthrew the Royalist forces. The King was imprisoned and executed, and Cromwell, declining the title of King offered him by Parliament, ruled the country as Lord Protector of the Commonwealth. Under this great man the power of England increased greatly. At his death, in 1659, his son, an amiable man of moderate capacity, succeeded him, but resigned his power in the following year. This paved the way for the return of the Stuarts in Charles II., a vicious monarch, whose reign saw further conflicts between the King and Parliament, which, however, in 1679, showed their opposition to his will, and passed the Habeas Corpus act. His brother and successor, James II., worked persistently for the

overthrow of constitutional government and the establishment of despotic regal power with the Roman Catholic Church as the State religion, and fared no better than his predecessors, being forced to abdicate to make room for William of Orange, whose acceptance of the crown was made subject to limitations inspired by Parliament, which passed an act arranging for the succession, while the Bill of Rights guaranteed the liberty of the country. Under Oueen Anne, the English armies under the famous Marlborough won splendid victories on the continent against France. In 1707 the union with Scotland was consummated. With George I., who succeeded her, came in the Hanoverian dynasty, during the early years of whose rule efforts were made to re-establish the Stuart line, whose hopes were finally crushed at Culloden in 1746. The reign of George II. was marked by the acquisition of India and Canada. England's colonial possessions were largely increased during the earlier years of George III., but later on the persistent attempts to tax the American colonists drove them to successful revolution and the formation of the United States of America. The intellectual brilliancy of the Parliamentary leaders of this epoch is one of its striking features, the destinies of the nation being in the hands of such men as Pitt, Fox, Burke and Sheridan. The successes of Napoleon in Europe alarming England, she joined with the other powers in a war whose object was to replace the Bourbons on the French throne. The prolonged conflict was ended by the battle of Waterloo in 1815, in which Napoleon was defeated by a British army under Wellington and a Prussian army under Blucher. During these wars England's victories at sea, under Admiral Nelson, constitute the brightest page in her naval history. In 1798 the Irish, assisted by the French, rebelled, but were subdued, and in 1801 occurred the passage of the act of union between Great Britain and Ireland. George IV., a regal profligate, succeeded him, and in the reign of William IV., who followed, was passed the first reform bill, which placed the political power in the hands of the people. Three years before his death, which occurred in 1837, the decree was ordered abolishing slavery from British territory. He was succeeded by the present sovereign, Queen Victoria, whose reign has proved one of the most remarkable, as well as beneficent, of all the British sovereigns. Born in London, May 24, 1819, she was only 18 years old at the time of her accession. In February, 1840, she was married to her cousin, Prince Albert of Saxe-Coburg-Gotha, with whom she sustained very happy conjugal relations until his death, in 1861, since which time she has remained a widow. The earliest event of importance in her reign was the repeal of the Corn Laws in 1845. In 1847 a famine occurred in Ireland, which was followed by a large emigration from that country. The Chartist agitation followed in 1848, and in 1853 the Crimean war commenced, in which England and France allied themselves with Turkey against the encroachments of Russia. It lasted from January, 1854, until March, 1856, when the Russians, having lost the fortress of Sebastopol, which was the key to their position, consented to a peace. The next serious employment of the English arms was that provided in the suppression of the Indian mutiny, which occurred in 1857-8, after which England assumed direct control of affairs in that country. In 1868 the supplementary

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reform bill was passed, and in 1870 the disestablisment of the Irish Church was accomplished. In the year following, the peaceful negotiation of the differences between the United States and Great Britain, caused by the acts of the rebel cruiser Alabama, resulted in an Alabama claims treaty. Amongst the minor wars of her reign were those against the Chinese, Abyssinians and Ashantees, the Afghanistans, Zulus and Boers. Though at peace with foreign nations, Great Britain is just now menaced by the defiant attitude of her Irish subjects, who, seeking to redress the wrongs which they have suffered, are in secret rebellion against the Government. Assisted by political societies, whose ramifications extend to foreign countries where expatriated Irishmen have found homes, the plotters for Irish liberty are endeavoring, by acts of violence organized and accomplished in secret, to terrify the Government into granting the concessions they demand.

The Government of Great Britain is a constitutional monarchy. The executive function is vested in the sovereign, and the legislative in the Imperial Parliament. The succession to the throne is settled upon the descendants of Sophia of Bruns-

wick, and no change in the "Act of Settlement" can be made without the consent of Parliament. The heir-apparent assumes the title of "Prince of Wales." The Parliament consists of the sovereign, the House of Lords and the House of Commons, and an act to obtain the force of law must be passed by all three. Membership in the House of Lords is hereditary. There are 492 members, including the 2 Archbishops and 24 Bishops of the Established Church of England. The House of Commons has 654 members -487 for England and Wales, 105 for Ireland and 62 for Scotland. Of these, 11 represent the universities, 283 the counties, and 360 the 355 boroughs. The right of voting is restricted in boroughs to householders and to lodgers paying a rent of £20 per annum; in counties to householders paying fio rent. The members of the Cabinet Council are appointed by the sovereign, but responsible to Parliament, and consequently their appointment is virtually made by the party in the majority. The sovereign appoints the members of the Privy Council, the Lord Mayor of London being the only ex officio member, but public business is in reality conducted by the Cabinet Council. In Ireland the Crown is represented by a Lord Lieutenant.



their land, Ireland is commanding a great deal of attention. Christianity was introduced into the island in the fifth century, when St. Patrick, being taken a captive in war, was sold into slavery in Ireland, where he remained for five years. Twenty years later he returned there as a missionary, and for thirty years preached the truths of the gospel to its people, succeeding most remarkably in his mission as a Christian propagandist. From the eighth to the eleventh century was the period of Ireland's greatest comparative civilization. During this period she was far more advanced than England in learning and culture. Colleges flourished, and the arts were carried to a high degree of perfection. Unfortunately, while so well advanced in civilization, Ireland had not achieved what was at that time necessary for her salvation-a strong central government. On the contrary, it was divided up into a number of petty kingdoms, which had no secure bond of union. Hence, when the Plantagenet monarch of England, Henry II., made his raids in 1172, his conquest of the disunited country was a comparatively easy matter, taking into consideration the really warlike qualities of the Irish chiefs and Barons who ruled the land. The foothold thus gained was in the province of Leinster, and from that date England has asserted a fictitious claim to rule a people

the present moment, on account of the strenuous

effort the Irish are making to effect the liberation of

persistently unreconciled to any interference with home rule. It was under the Tudors, however, that the fate of the unhappy island was settled. There was no centralization in Ireland. Britain became great because the petty kingdoms were consolidated into one nation, while Ireland dwindled away and lost its splendid opportunity, through the calamitous influence of the tribe and the clan, in distinction from the country. For a long time the "English Pale," or the area of actual British rule in Ireland, was very limited. Henry VII. determined to extend it, but pursued his purpose only feebly. Henry VIII. was more intently bent on Irish subjugation, and under his reign nobles and people felt the crushing hand of a tyrant. In 1542 he assumed the title of King, instead of Lord of Ireland, by virtue of an act passed by the Anglo-Irish Parliament in 1541, and about the same time some of the native princes were induced to acknowledge him as their sovereign and to accept peerages. Since then his successors have never ceased to hold fast both the shadow and substance of Irish sovereignty. In order that the national sentiment might be suppressed, the language, dress, customs and laws of the country were prohibited. The fact that Henry was at war with the Pope made loyalty to Rome an expression of patriotism in Ireland. Very little favor was extended to the doctrines of the Reformation, either by the descendants of the old English settlers or by the native Irish, and when

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the English Government sought to introduce it great dissensions were stirred up. When Mary came to the throne, and Protestantism lacked the support of the Government, it almost immediately melted away. She was not disposed to abandon the island to itself by any means, but her personal sympathies were with the Irish in the matter of religion. Elizabeth was in sympathy, of course, with the Protestantism of her father rather than the papacy of her sister; but she took a secular view of the Irish question, and under her the power of the British Crown was felt throughout the entire island. The old Celtic Constitution was rejected; the tribal authority of the chiefs was taken from them, and the tribal system of property set aside; English judges and English law were substituted for the old proceedings: the result of which, says Green, was that "the evicted natives withdrew sullenly to the lands which had been left them by the spoiler; but all faith in English justice had been torn from the minds of the Irishry, and the seed had been sown of that fatal harvest of distrust which was to be reaped through tyranny and massacre in the age to come."

Very shortly before Elizabeth's death occurred the famous

insurrection of Tyrone, who invited the Spaniards to assist him; but they were all defeated in 1620. Repeated rebellion tried the temper of the Government, which, in the reign of James I., seized the province of Ulster and divided it among such of his Scotch and English subjects as chose to settle there. In 1641 occurred More and Maguire's rebellion, in which an endeavor was made to expel the Protestants from the island. From 1649 to 1656 the iron hand of Cromwell was laid upon the land. In the year of King Charles' execution, the

Royalists being still strong and rebellious in Ireland, Cromwell went there in person as Lord-Lieutenant and Commander-in-Chief, and his measures were so cruel and sanguinary that the island was, in nine months, completely crushed. He left in charge of it his son-in-law, Ireton, who completed the island's subjection, and no disturbance of its tranquillity occurred until the revo-The northern province, Ulster, was colonized by lution. Scotch shortly after Cromwell's invasion. At the time of the revolution James II. received very generally the support of the Irish, while the Scotch and English colonists took the part of William and Mary. The struggle between oppressor and oppressed lasted for four years, and was ended by the bloody battle of the Boyne, fought July 1, 1690, and resulting in the overthrow of the Irish, who, two years later, were again in utter subjection. From this time on the British

Government systematically sought to destroy the Irish national sentiment. Penal laws were passed which imposed terrible restrictions upon the Roman Catholic population, and rebellions were frequent. Backed by the "Volunteers," Henry Grattan secured a free Parliament and the partial abolition of the heavy restrictions on Irish commerce. It was mainly through this patriot's exertions and influence that the stringent pressure of the penal laws against the Roman Catholics was relaxed. He steadily opposed the idea of a legislative union of the countries, and in 1800 he was elected to fight in Parliament for Irish liberty. Two years previous the country, driven to desperation by oppression, had been in revolt, and the year that saw Grattan's election saw also the crushing out of the attempt to secure Ireland's liberty. Notwithstanding his brilliant advocacy of the Irish cause, the oppressors were in the preponderance in Parliament, and the union was consummated January 1, 1801. Since that time Ireland has not lacked for agitators to keep alive the national spirit and to fight for the amelioration of her condition. In 1829 the Catholic Emancipation act was passed, largely through

the exertions of the great Daniel O'Connell, and later on a reform bill and a poor-law were enacted. About the middle of the present century a strong movement was on foot for the repeal of the union, and while it was in progress famine fell upon the land and whole counties were depopulated. In 1848 Smith O'Brien's abortive revolution was easily suppressed. More formidable since then have been the alternately secret and overt workings of the Fenian Brotherhood. Organized in 1859 in both America and Great Britain, it held a congress at



SACKVILLE STREET, DUBLIN.

Chicago in 1863 that attracted much attention. Two years later another was held in Cincinnati, which represented a constituency of 80,000. In 1866 an attempt was made to conquer Canada, and in 1867 several Fenian riots occurred in Great Britain. It has been urged that these aggressive movements accomplished nothing. Directly they may have failed of great success, but indirectly they proved of immense value to the Irish cause. By far the greater part of the population of Ireland hold the Roman Catholic faith, and their taxation for the support of the State Church was one of the leading causes of Irish discontent. It is not uninteresting to note that it was in 1869—two years after the first Fenian agitation—that the Episcopal State Church was disestablished and disendowed, and the endowment, except as used for annuities, dedicated to educational and other secular purposes. Important as was the

concession, it did not satisfy the Irish people, who have placed national independence and autonomy as the goal of their combined struggles, and a powerful movement was inaugurated for securing reform in tenure of land and the relations of landlord and tenant. Under the lead of Mr. Parnell, himself a large land-owner, the matter has been so persistently brought before the attention of Parliament that reforms have already been accomplished of great importance. The Land League, which is at the back of Mr. Parnell and his associates, is a formidable body, which aims at British reforms within the limits of the Constitution, rather than the dissolution of the union. It has secured much through the Land Bill, and the readjustment of rents thereunder, and it is still a tremendous power in Ireland and the British Parliament, while the hundreds of societies in this country which are affiliated to the main body show how strongly Irish-Americans and Americans sympathize with the cause of Ireland. The aim, however, of the Irish Nationalist party does not fall short of an Irish Parliament to manage local affairs, of the formation, in place of the present system which concentrates all power in the British Parliament, of a federal government, and of the abolition of the oppressive system of land tenures now in vogue.

Within the past few months the struggle for these desirable objects has assumed a shape of secret aggression which has

carried terror into the hearts of the British. Right in the heart of the British capital, members of the secret societies have effected explosions of large quantities of dynamite, and quite recently the Government spies ferreted out a factory of explosives, to be used in carrying on the war of terror against oppression. Many arrests have been made, and trials have followed, resulting in a number of convictions, with sentences of death or transportation. Among those doomed to death are the convicted assassins of the Earl of Spencer and Secretary Burke, whose murder was one of the most unfortunate occurrences in connection with the recent struggles, and has cost the good cause much favorable opinion which should belong to it. Such events, however, resulting from the enthusiasm of the over-zealous and excitable, have attended almost all revolutions, and nothing will ensure their forgiveness quicker than the success of those who are now continuing the fight for Irish independence.

Ireland is represented in the British House of Commons by 105 members, and in the House of Lords by 28 representative Peers, who are elected and hold office for life. Its executive consists of a Lord Lieutenant and Privy Council, nominated by the Crown. English rule is enforced throughout the country with the assistance of an armed military constabulary numbering over 12,000 men.





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REVIOUS to the union with England, Scotland, as an independent country, had attracted considerable attention. In the middle of the ninth century the Scots acquired a predominance in North Britain by revolution. A lineal descendant of Ardan, a

powerful prince who more than once successfully invaded the English borders, named Kenneth, claimed the British realm. Under his son, Malcolm II., the Scotch acquired the Merse and Teviotdale from the Earl of Northumbria. Malcolm III., who succeeded, had a long and prosperous reign, in which Scotland

made great strides forward, both politically and socially. English customs were introduced, owing to his long residence in England and his marriage with an English princess, and the English language began to make headway on account of the large immigration from England which took place. During the succeeding reigns of Edgar, Alexander I., and David, who was a great reformer in both clerical and secular affairs, the English influence increased. One of the ablest and best of Scottish kings was

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Alexander III., who, by a treaty with Norway, added the Isle of Man to his dominions, together with other islands of the Western Sea. A dispute over the crown followed the death of his granddaughter in 1290, and the decision between the claimants, Baliol and Bruce, was left to King Edward I. of England, who entered the country with an army, deposed Baliol and instituted English government. A prolonged struggle for independence followed, in which the heroic deeds of Wallace and Bruce gained for the Scotch a deathless reputation

for valor and patriotism. During succeeding generations the history of Scotland was one prolonged story of interminable civil and border warfare, and of occasional invasions from England. Amicable relations between the Crown and the nobles were first accomplished during the reign of James IV., whose gay and elegant court seduced the warriors from the field and left the peasantry to attend undisturbed to the peaceful and profitable occupation of husbandry. Fisheries were encouraged, a navy built and commerce promoted, while the King's marriage with Margaret, daughter of the Tudor

Henry VII., laid the foundation of the union of the two kingdoms. Henry VIII. sought to conquer the country, and in the war which James IV. was provoked into declaring against him the Scotch navy was destroyed, and its armies defeated on Flodden Heights. The King was among the slain. His son, subsequently James V., was then a minor, and during the regency which ensued the country fell into a wretched condition. He married a daughter of the French Duke of Guise, the fruit of which mar-

riage was the unfortunate Mary, Queen of Scots, whose son, James VI. of Scotland, became James I. of England, thus uniting the two countries. The overthrow of the Stuart family and other events which happened from the accession of James VI. to the English throne, down to ratification of the act of union by the Scottish Parliament in 1707, are told in the history of Great Britain given elsewhere. Scotland retained, on its admission to the union, its church system and its laws. It is governed by the Imperial Parliament, to which it elects sixty members.





HEN Julius Cæsar was on his way of exploration through Europe, which led him through Gaul and into Great Britain, he avoided rather than sought to measure arms with the Germans, whose fighting he tasted of and then learned to

respect. A conflict between 'he Romans and Germans was,



KING'S PALACE, BERLIN.

however, inevitable, and the freedom and independence of the nation was firmly established by Arminius, who crushed the

invaders in the historic battle of Teutoberger, which occurred B.C. 9. About 500 years later, Clovis, moving westward, established the Frankish Empire, which, under the famous Charlemagne, reached from the Raab, in Hungary, to the Ebro, in Spain, and from the Eider, in the north, to the Tiber, in the south. The division and subdivision of the empire created numerous duchies and principalities, and the ruler over all was generally the one who was able to secure the influence of the clerical leaders. Wars for the possession of the imperial crown and changes of dynasty were frequent. The empire lasted until 1273, when Count Rudolph of Haps-

burg began his reign as King, destroyed the power of the nobles and laid the foundation of the family which still reigns over Austria. In the reign of Charles V. the power of Germany was extended so that it included Belgium, Spain, the

Netherlands, Austro-Hungary and Italy, and she became the ruling power in Europe. This reign was also remarkable for the beginning of the Reformation. In 1521, at the Diet of Worms, Luther made his famous defence; at the Diet of Speyer was made the formal protest of his supporters against decisions unfavorable to them, while at the Diet of Augsburg their creed was publicly announced. Religious dissensions occupied the country for about fifty years after the retirement of Charles V., in 1556, and in 1618 the Thirty-Years' War broke out. At first the Protestants were defeated, but under Gustavus Adolphus, King of Sweden, they rallied, and Germany was secured forever in her religious freedom by the peace declared at Westphalia in 1648. In 1675 the Elector of Brandenburg vanquished the Swedes at Fehrhellin and laid the foundation of the Prussian monarchy, the name of Prussia being assumed when Frederick I. was crowned King in 1701. Numerous wars occurred in the next one hundred years, and constant mutations occurred in the map of Germany. The young kingdom of Prussia, under the famous Fredericks, developed rapidly into a first-class power, and in the great wars, especially that which led to the downfall of Napoleon, her generals and soldiers gained many important victories. During the Napoleonic wars Germany lost a large portion of



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her territory, fully half of it being lost by the Peace of Tilsit in 1806, when Napoleon formed the Rhenish Confederation under French protection, and the German Empire was formally dissolved. Subsequent to the return of the Bourbons

the affairs of Germany were regulated in accordance with a plan drawn up by Metternich, whose influence then predominated throughout Europe. In 1833 the Zollverein was established, an important event as being in the direction of a united Germany. The confederation of the German States was alternately swayed by Austria and Prussia. In 1849 Frederick William IV. of Prussia was tendered the imperial crown by the Diet of Frankfort, but declined to accept it. His successor, William I., early evinced a desire to rule in accordance with constitutional views, but when, in 1862, the Government declined to pass certain laws relating to the army, he created Bismarck Minister of State and instituted a violent reaction.

In the following year Prussia laid claim to the Danish duchies of Schleswig and Holstein, which Denmark disputed, and, war following, the Prussian arms were victorious and the two countries were annexed. This action was opposed by Austria, who sought to have them placed under the rule of a branch of the Danish royal family, and in June, 1866, war was declared against Prussia, whose splendidly organized army, armed with the needle-gun, which was at that time a novelty in warfare. completely routed the Austrians at Sadowa. Austria withdrew entirely from the German confederation and acknowledged the political and other changes which Germany had undergone at Prussia's hands. The work of German unification was now further advanced. The North German Confederation was formed, its Constitution, modified in parts, was made to cover the whole German Empire, and treaties were effected with the South German States. France, jealous of the growing power of Germany, became alarmed when she saw that the unity of her traditional foe in the East was fast being realized, and the relations of the two countries became day by day more strained. A conflict was inevitable, and the issue was furnished by the question of supplying a ruler for Spain, whose throne was at that time tenantless. The crown was tendered by the Spaniards to Prince Leopold of Hohenzollern, who declared his willingness to accept it. The French Government, hoping to gain a diplomatic victory of great political consequence, demanded of King William that he should command the Prince to withdraw his acceptance of the Spanish crown. This the King declined to give, and when the Prince himself renounced the crown the French Government demanded of William a declaration that he approved of the renunciation and that he would not in the future permit of the Prince's candidature. This William declined to give, and on July 19, 1870, France declared war against Prussia. In a very few days it became apparent that the haste with which the French diplomats had brought about the war was not warranted by the condition of the country's military and naval affairs. From the beginning it was apparent that, while the Prussian armies were in a high state of efficiency, those of France existed to a large extent only on paper, were poorly equipped and very defectively organized. The fight opened at Saarbrucken, where the French gained a wight advantage, but the defeats of Weissenburg and Worth completely changed the aspect of affairs. The French armies withdrew into France, and the German battalions streamed over the frontier, following up eagerly the advantages they had secured Bazaine, the French commander-in-chief, after conducting several unsuccessful battles, was locked up in Metz with a large army. The main body of the French army, led by Napoleon III. and commanded by Marshal MacMahon, sought to relieve Bazaine, but were checked at Sedan and overthrown. Napoleon surrendered and was sent in captivity to Wilhelmshohe.

The war should have ended here, as the German hold upon France was so complete that no hope was left to her. The Parisians, however, would not accept the situation. A provisional government was formed and the defence of the capital, pending the formation of a new army, decided upon. The Empress Eugenie escaped to England. September 19 the German armies invested Paris, the idea being to starve the city out, and January 26 the siege was raised and the Germans took possession. At Versailles, February 26, a preliminary peace was signed, by which Alsace and Lorraine were to be ceded and a war indemnity paid to the Germans. The peace was ratified by the French National Assembly, and Paris was evacuated. Thus it will be seen that the war which France waged against the unification of Germany resulted in its accomplishment. The treaties by which the unity was secured were concluded between Northern and Southern Germany in December, 1870, and January 18, 1871, while the victorious German armies were thundering at the gates of Paris, the King of Prussia was proclaimed Emperor of Germany as Kaiser Wilhelm I.

The Government of Germany is a limited monarchy. The German Empire is a confederation of sovereign States, with largely representative governments. Although the Emperor is limited in certain relations, he is given large power in others. By the terms of the Constitution, which bears date April 10, 1871, all the States of Germany form an eternal union for the protection of the realm and care of the welfare of the German people. In the King of Prussia, who bears the title of Deutscher Kaiser (German Emperor), is vested the supreme direction of the military and political affairs of the Empire. The Kaiser "represents the Empire internationally," and can declare war, if defensive, and make peace; can enter into treaties with other nations, and can appoint and receive embassadors. To declare war, if not merely defensive, he must have the consent of the Bundesrath, or Federal Council, in which body, together with the Reichstag, or Diet of the Realm, are vested the legislative functions of the Empire. The Reichstag represents the German Nation, and its members, 307 in number, are elective by universal suffrage and ballot for terms of three years. The Bundesrath represents the individual States, and its members, numbering fifty-nine, are appointed for each session by their respective governments. The Bundesrath and Reichstag meet in annual session, convoked by the Emperor. All laws must have a majority of both houses, and must be approved by the Emperor and promulgated by the Chancellor of the Empire.



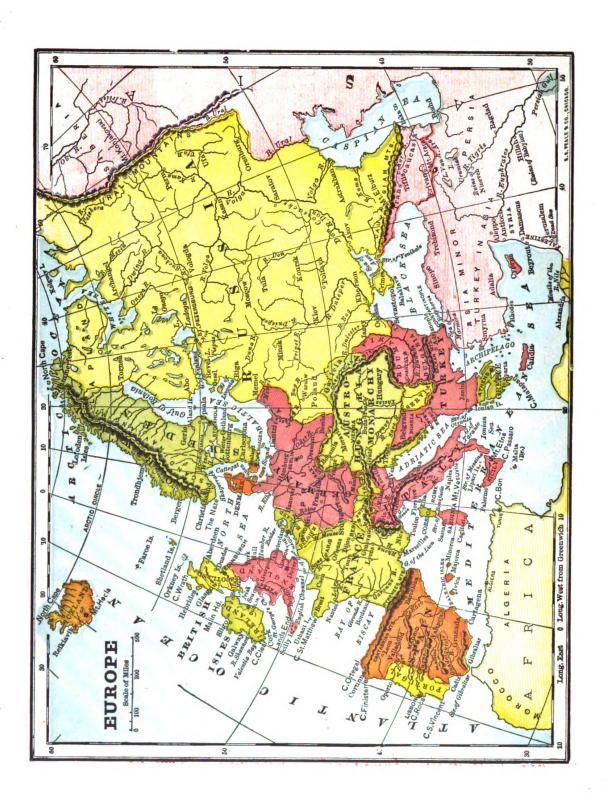


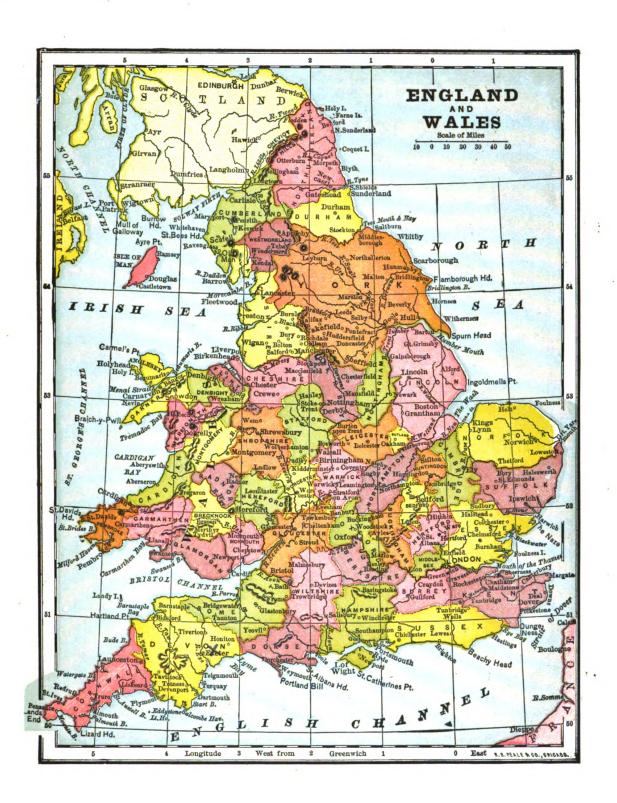
USTRIA'S early history will be found under the head of Germany. The Government under which the Austro-Hungarian Empire now exists will receive attention here. About the end of the eighth century Charlemagne founded a Margraviate in Lower Austria

which, in 1156, became a Duchy, and three centuries later an Arch-Duchy. Maximilian II., son of Emperor Charles V., of Germany, became Emperor in 1564, with a dominion over Austria, Hungary and Bohemia. It was not until the eighteenth century that Austria came to the front as one of the great European powers, and attained a preponderating influence in the conduct of German affairs. In the year 1806 the reigning Emperor, Francis, renounced the title of Emperor of the Romans and became the first Emperor of Austria. In the seven years which followed, Napoleon worried the country, but he was courageously resisted, and the territories which he took from her were restored in 1815 by the Congress of Vienna, together with the Tyrol, Dalmatia, Lombardy and Venice, and the Illyrian provinces. Several insurrections in the Austro-Italian provinces occurred during the last year of Emperor Francis' reign, and the maintenance of the confederation was shown to be a very difficult matter, far beyond the ability of his son, Ferdinand I., who succeeded in 1835. The crafty Metternich almost entirely dictated the national policy during his reign, which ended by his abdication in 1848, when the throne was given to his nephew, Francis Joseph. During this year occurred the Hungarian revolution, led by Kossuth. In 1859 the relations of Austria and France were broken off, but after a warfare of two months the two Emperors, Francis Joseph and Napoleon III., consummated a peace by which Austria surrendered Lombardy, Italy was made a confederation under the Pope, and Tuscany and Modena were restored to their rulers. The Constitution which Kossuth and his compatriots struggled for in 1848 was granted in 1867. In 1860 the first Constitution of Austria was promulgated, which was followed by a patent in 1861, upon which was based a charter that went into effect in 1867. Hungary's independence was acknowledged, and July 8, 1867, the Emperor was crowned King of Hungary, which country pledged itself to contribute

to the national revenues. In 1864 Austria combined with Prussia in the occupation of the Danish provinces of Schleswig, Holstein and Lauenburg, which terminated in their acquisition; but, quarrelling afterward with Prussia over the question of their disposition, she went to war with that power. This adventure was freighted with disaster, and the peace which followed was only purchased at the cost of Venetia, the fortresses of the Quadrilateral, the recognition of the dissolution of the German Confederation, and the payment of a large indemnity. After the close of the Turko-Russian war of 1877–8, the Austrian Empire was enlarged by the acquisition of Bosnia, Herzegovina and Novi-Bazar.

By the present Constitution each of the two countries, Austria and Hungary, has its own parliament, ministry and government, the connecting links being a common sovereign, army, navy and diplomacy, together with a controlling body known as the Delegations. The latter form a parliament of 120 members, equally divided between the two countries, the delegates being chosen by the local legislatures, the latter bodies having two branches, substantially the same as the Senate and House of the United States Congress. The local legislature or diet is called Reichstag in Hungary, Reichsrath in Austria. The delegations of each country sit in a body by themselves, possessing co-ordinate authority and power; but if they cannot agree upon measures while thus acting separately, they meet as one body, and the final vote is binding upon the entire empire. This imperial diet is confined in its jurisdiction to foreign affairs and war. There are three Ministers for the whole empire, namely, the Ministers of War, of Foreign Affairs and of Finance. There is a ministry in Austria and another in Hungary. The former consists of the Interior, Public Education, Justice and Ecclesiastical Affairs, Finance, Agriculture, Commerce, and National Defence. The Hungarian departments or executives are: Presidency of the Council, Finance, National Defence, Ministry near the King's Person, Interior, Education and Public Worship, Justice, Communications and Public Works, Agriculture, Industry and Commerce, and the Ministry of Croatia and Slavonia. The Imperial Cabinet is responsible to the Delegations, the local cabinets to their respective diets, the Reichstag and Reichsrath, as the case may be.









ELGIUM, the most densely populated country in Europe, was in its earlier days a favorite bone of contention for the European powers, and frequently became the battle-field upon which their claims were settled. The Burgundians, the Austrians and the

Spaniards successively ruled it, and in Napoleon's time it came under French rule. In 1814 a union between Holland and Belgium took place, which proved very unpopular with the Belgians, and shortly after the Paris revolution of 1830 they rose against the Government in such force that the troops ordered to quell the uprising found themselves unable to do so. Brussels, the capital, and other large cities fell into the hands of mobs, who destroyed much valuable property. A separation of the States followed, and the differences between them were finally settled by a convention of the great powers in London. The dissolution of the Kingdom of the Netherlands was proclaimed, and in 1831 Prince Leopold of Saxe-Coburg entered Brussels as the Belgian King; but the kingdom was not recognized by all the States of Europe until 1839, when the treaty was signed which established peace between Leopold and the King of the Netherlands. Leopold I. died in 1865, and was succeeded by his eldest son, Leopold II., who still reigns. Belgium has long been the scene of a struggle between the priests and growing liberalism. In 1850 the educational question, which had occasioned a long and fierce dispute, was supposed to be settled on liberal principles, but since then there has been another keen struggle between the Progressionists and the Ultramontanes, and in 1875 Belgium was the scene of serious religious riots, in which many persons taking part in processions were injured by mobs which attacked the demonstrations.

The Government of Belgium is a limited constitutional monarchy, which was established in its present form by the revolution. The broadest principles of freedom and liberality are its foundation; power comes from the people, and is restrained by law. Republican equality and simplicity pervade all institutions. No act of the King is valid unless it has the approval of one of his Ministers. The law-making power is vested in the Legislature, consisting of a Senate and a Chamber of Representatives, who are elected in the proportion of one to every 40,000 inhabitants. The law is administered by local and provincial tribunals, with courts of appeal in the principal cities. The provinces, each of which has a Governor who is named by the King and a Provincial Council, are divided for civil purposes into arondissements, justice of peace cantons, and communes. The provincial councils guard the interests of the different provinces, direct taxation, superintend public improvements and prepare budgets.



(THE NETHERLANDS.)



FTER being ruled for four centuries by a number of princes who were subject to either France or Germany, the Netherlands, in the fourteenth century, came almost entirely under the rule of the Duke of Burgundy. At that time the country was rich,

prosperous and happy, the controlling interest of the State resting in the great commercial cities, which were in the enjoyment of almost republican freedom, and renowned for the splendor and wealth which they acquired under the Burgundian

rule. About the middle of the sixteenth century an attempt to bring under the power of the Inquisition the Netherland Protestants, who had taken early a part in the Reformation, was stoutly resisted. Concessions were made which produced a temporary quiet, but Philip II., who was King at the time, entered upon the work of crushing Protestantism, and carried it on with merciless rigor, his ferocious policy entailing the execution of large numbers of the aristocracy who had aided the rebellion. The Prince of Orange, having made alliance

HOLLAND. IOI

with the Protestant powers, waged war against the oppressor. However, the assassination of the Prince in 1584 for the time being dashed their hopes of success, and the war ended. His son, Prince Maurice, carried on the war later with success. In 1648 war with Spain ended, and the Netherlands achieved their independence. Foreign conquest occupied the attention of the Dutch even when occupied with domestic troubles, and

they have advanced greatly in prosperity. The colonial possessions of the country are very important, consisting mainly of islands in the East Indies; portions of Borneo, Celebes and Sumatra, in Asia; and Dutch Guiana and Curacoa and several islands in America. Like Belgium, the Government of the Netherlands is a limited constitutional monarchy, with the executive vested in the King,

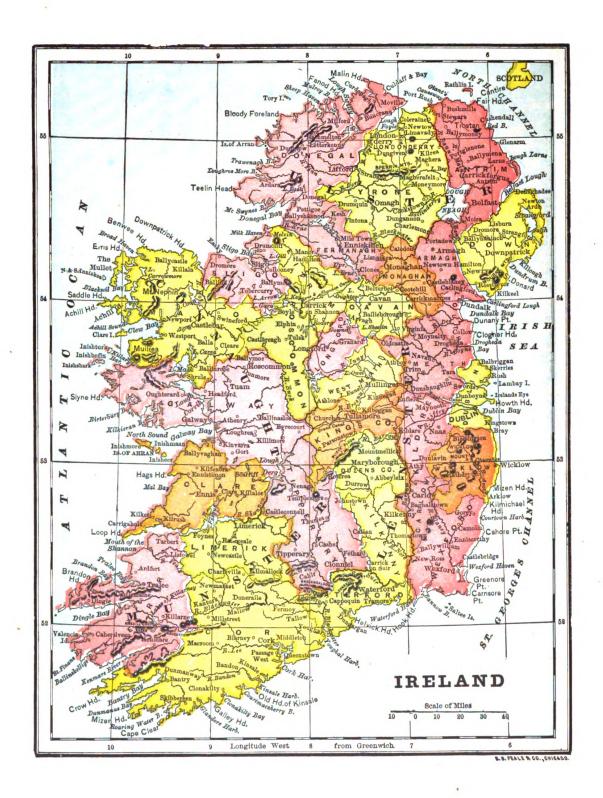


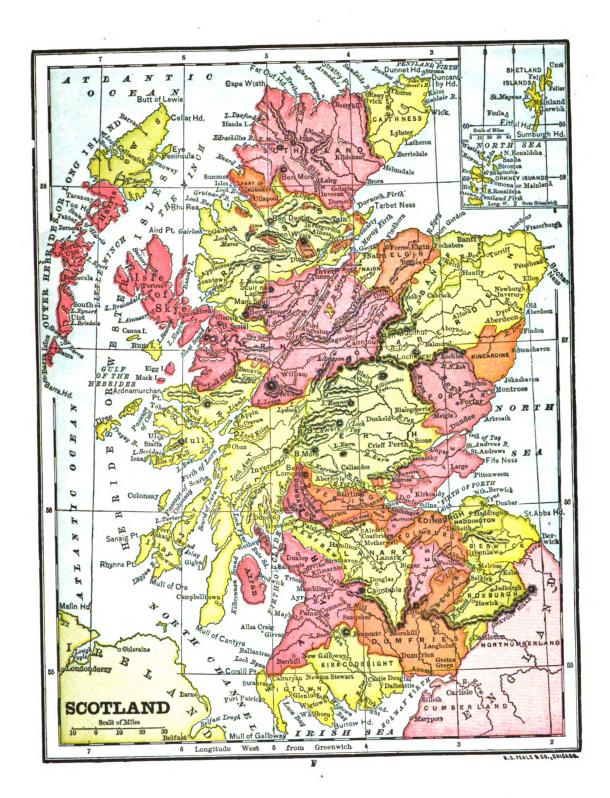
CITY OF AMSTERDAM.

their standard was planted on several of the East India Islands and on the American continent. A great naval power, they for many years disputed with England the supremacy of the seas. The events which led to the separation from Belgium are described in the history of that country. Since that occurrence the Netherlands, with the exception of wars with her colonies, have enjoyed a prolonged peace, during which

with a Council of State nominated by him, and the Ministers of the Interior, Foreign Affairs, Finance, War, the Colonies, Marine and Justice. Legislative authority rests in a Parliament, consisting of two chambers, known as the States-General. The governors of the provinces, the burgo-masters of cities, towns and villages, and many other officials, are appointed by the King.









ORWAY was a collection of petty tribes up to the time of Harold Harfager, who, in 863, began the work of unification. Attempts to introduce Christianity met with little success up to the time of Olaf Skatkonung, who inaugurated a crusade against the Pagan Finns, destroyed the Pagan temples, and laid the foundations of the city of Trondhjem. In the early part of the eleventh century Canute, the Danish King of England, conquered Olaf and assumed the crown. Wars with Britain followed, and Ireland was invaded. On the water the prowess of the Norsemen was remarkable, and for years they scourged the seas, but the defeat of Haco V. off the west coast of Scotland, and his death later in the Orkney Islands, were followed by a period of national depression. National industries were checked, foreign wars exhausted the exchequer, and in two years following 1347 the plague prevailed through the land, carrying off more than half the people. Not only its nationality, but also its language, passed away during this period, and when, in 1380, the crown descended to the son of Olaf III., a union of the two countries was accomplished which lasted for over four centuries. Near the close of the fourteenth century Margaret effected the conquest of all Scandinavia, and the three kingdoms became one under the treaty of Calmar, which remained in force until 1523, when Sweden emancipated herself from the union with Denmark, and gave to Gustaf Vasa, who helped on the deliverance, the crown. For more than two centuries thereafter Norway was merely a province of Denmark, but about the beginning of this century the national prospects brightened, when Charles XIV. of Sweden was on the throne. The Danes acknowledged Norway as a Swedish dominion, and the two countries were united August 14, 1814. In 1818, Napoleon's General, Bernadotte, was elected to the throne, and under him and the succeeding generations of his dynasty, which still rules, great advancement has been made in the direction of liberal government.

SWEDEN'S modern history is almost indissolubly connected with that of Norway. During the rule of Gustaf Vasa, who headed the successful revolt against Denmark, the country enjoyed great prosperity. In succeeding reigns the country was at war almost constantly, and the successes of the great Gustavus Adolphus are among the most glorious of the nation's annals. In 1743, in a war with Russia which had lasted two years, Sweden lost Eastern Finland to that power. A new constitution was decreed in 1809, when Gustavus IV. was forcibly deposed in favor of his uncle, Charles XIII. The union with Norway, in 1814, which has already been mentioned, ends the distinctive histories of both countries. In 1855 Russian encroachments were threatened, but an alliance which Norway and Sweden effected with Great Britain and France, by which the former engaged themselves never to cede or sell territory to Russia, secured the guarantee by the two latter powers of their future territorial integrity.

Though having a common ruler, the treaty of union between Norway and Sweden leaves each of them free, independent, indivisible and inalienable. The Government, of which Oscar II. is now the head, is a constitutional hereditary monarchy. Legislative authority lies in the Storthing—an assembly of deputies which meets annually, and whose members are chosen by indirect election. It meets of its own authority and divides itself into two chambers—the Lagthing, practically a Senate, and consisting of about one-fourth of the entire Storthing, and the Odelsting. A Council of State gives consent to the declaration of war, making of peace or conclusion and abrogation of treaties by the King, who is required to pass some months of each year at Norway and to be crowned at Trondhjem.



N the days of the Norsemen Jutland was occupied by a number of sea-faring chieftains, who divided their time between war among themselves and piracy upon outsiders. In the tenth century these bold mariner-warriors had made their way as far as the coasts of Scotland and Normandy, carrying terror into such places as they vis-

ited. After having paid England one or two flying visits, they came to stay in 1018, when the Danish King Canute added that country to his dominions in the east. The Danish tenure was of short duration. Anarchy arose in Denmark after Canute's departure, and in 1042 his dynasty became extinct, and his sister's son, Svend Estridsen, succeeded. Foreign wars

and internal dissensions enfeebled the land, and a powerful aristocracy arose who oppressed the people, reducing them almost to a condition of slavery. In the reign of Canute VI. and Valdemar II. the power of Denmark grew until its regal authority extended over Holstein, Pomerania and a large portion of North Germany. The Baltic became little more than a Danish inland sea, and heavy tolls were exacted of all foreign vessels which entered it. After the death of Valdemar. in 1241, internal disquietude possessed the country, which rapidly lost its possessions and prestige. The third Valdemar, however, retrieved the nation and regained many of its possessions. Dying in 1375, he was succeeded as regent by his daughter Margaret, who had married the King of Norway and was at this time his widow. Her rule, by the treaty of Calmar, was also extended to Sweden and Norway, and the union of the three countries lasted until 1523, when the Swedes arose in insurrection against Erick, and the two crowns were separated. Up to the year 1660 the crown was, to a large extent, elective, but in that year Frederick III., aided by the people, who arose against the nobles, assumed the supreme power, forming an absolute monarchy with right of succession. For a century the peasantry were kept in a condition of serfdom, but its abolition was accomplished by Christian VII. in the eighteenth century. Wars on her own account or in alliance with other nations kept Denmark busy until 1848, when an insurrection arose in Holstein which brought the country to the verge of ruin. Prussia lent the insurrectionists a portion of her army, but the revolution was put down and a peace was concluded in Prussia in 1850, and in 1852 a protocol was drawn

up in London returning the duchies of Holstein and Schleswig to Denmark. A final settlement of the question was not yet reached, however, and when, in 1863, the King died suddenly, the Duke of Augustenberg laid claim to the throne, supported by Prussia, Austria and other German States. The duchies were occupied by their troops, and in the war which Denmark brought to expel them her armies were defeated, and in 1864 King Christian IX. surrendered Holstein, Schleswig and Lauenberg to the conquerors.

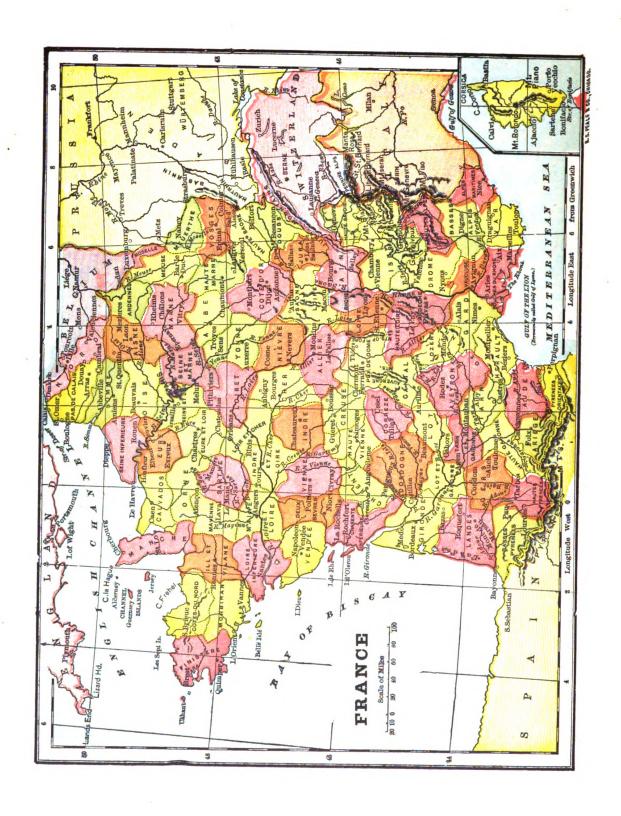
The despotic form of government which was established in 1660 lasted until 1849, when Frederick VII. signed a charter acknowledging the principle of limited monarchy, and made the future government dependent upon the Rigsdad (Congress), consisting of two elective houses, the executive power resting in the King and his Ministers. The Rigsdad consists of two houses - the Landsthing, corresponding to the United States Senate and having the privilege of discussing the budget, and the Folkething, similar to the United States House of Representatives, which administers local affairs. Certain members of the Landsthing receive their nomination from the Crown for life, the remainder being elected indirectly by the people for eight years. The members of the Folkething are elected directly for a term of three years. All male citizens over 30 years of age who are not paupers enjoy the privilege of voting. With the King as its presiding officer, the executive body comprises the President of the Council, who is also the Minister of Finance, and the Ministers of Foreign Affairs, the Interior, Public Education and Ecclesiastical Affairs, Justice. and for Iceland, War and Marine.

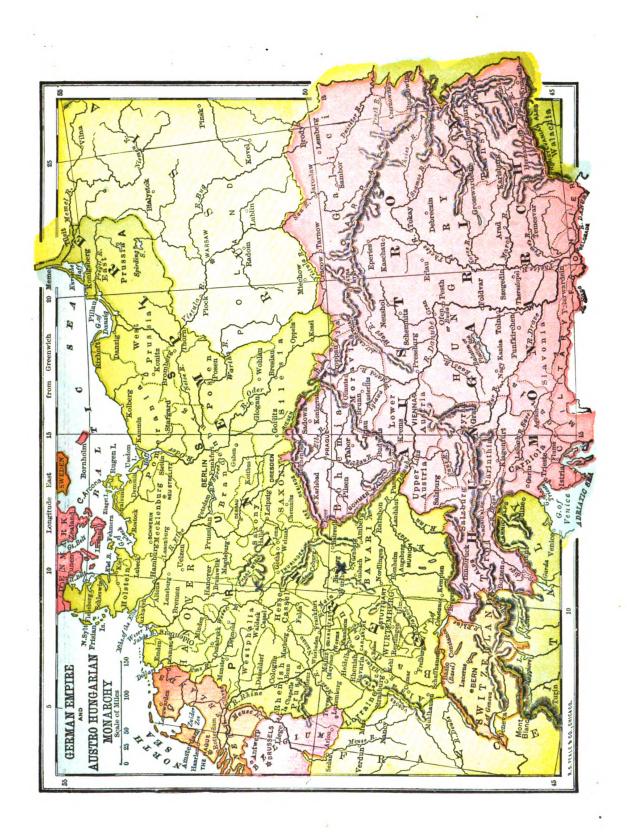




OUR centuries after the invasion of Julius Cæsar, which made ancient Gaul a Roman province, the country, being deserted by its conquerors, was invaded by the Franks, whose leader, Clovis, in the sixth century, established the French monarchy. The Merovingian dynasty, which he founded, was succeeded by the Carlovingian, whose greatest ruler, Charlemagne, extended his empire until it included Italy and a large portion of Germany. The House of Capet succeeded, and ruled from 987 to 1328, and that of Valois, which followed, from 1328 to 1589, and during all these years, while the power of the nobles was checked by the growing wealth and influence of the burghers, the monarchy gained in strength. In 1580 the Bourbon dynasty was founded by Henry IV., who was succeeded by Louis XIII., an indolent monarch, who left the conduct of affairs to his powerful Minister, Cardinal Richelieu. The reign of Louis

XIV., which followed, was in many respects a brilliant one, but freighted with misfortunes which did not appear until after its close. The revocation of the Edict of Nantes, by which religious freedom had been secured, led to banishments and persecutions, which cost the country many of its leading industries. The court's reckless prodigality in the erection of magnificent buildings and the conduct of gorgeous spectacles, together with more or less successful wars, swelled the national debt to an enormous extent, and this burden crushed the French people during the succeeding reigns, and was a potent cause of the revolution of 1788. The reign of Louis XV. added to the national burden, and the evil influences of his mistresses led to a foreign policy which cost France her colonial possessions and the loss of her fleets and armies abroad. His successor, Louis XVI., an amiable but weak monarch, lacked the ability to cope with the difficulties of his position, and, after





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he had reigned for fourteen years, in 1788 was begun a revolution by which the whole framework of society in France was overturned. The bourgeois, or commoners, finding their powers checked by the combined clergy and nobility, in 1789 constituted themselves as the National Assembly, and proceeded to the formation of a Constitution. Troops being ordered to oppose them, in Paris, July 12, an insurrection broke out. A national guard and revolutionary municipal boards were formed, and July 14 the Bastile was stormed. August 4 the National Assembly abolished manorial and feudal rights, whereupon the aristocracy began to emigrate. The King and Queen were taken prisoners. A Constitution was prepared by the Assem-

bly, to which the King gave his assent, as he did also to another which was formed later. The opposition of foreign courts to the revolution aroused the popular anger, and the King and Queen were executed. The Reign of Terror succeeded, the absolute power being placed in the hands of a Committee of Public Safety, whose excesses were terrible. Worship in accordance with the Christian-religion was abolished, and that of Reason substituted. This caused dissensions within the convention itself, and when the last of the Jacobin leaders, Rebespierre, perished upon the scaffold to which he had sent hundreds of victims, they were without a leader. In 1795 the convention adopted a new Constitution, which placed a Directory of five in charge of the national executive. The radical Democrats, combining with the Royalists, organized an insurrection against the new Constitution which was quelled by General Napoleon Bonaparte, whose qualities had already, at the early age of 26, brought him rank and distinction. The mob of Paris was subdued, but the Directory had a difficult task before it. England, Austria and Prussia were combined against the Republic, whose

armies, however, achieved victories for it in foreign countries and made its name dreaded as well as respected. At home the Royalist interest made headway, and in 1797 they gained a majority in the representation. The Directory took severe measures, surrounded the Tuileries with troops and ordnance, arrested the Royalist members, declared their election illegal, and banished them from the country. Financial difficulties also added to the burden of the Directory. The public debt was more than the nation could pay, and the State was declared bank.

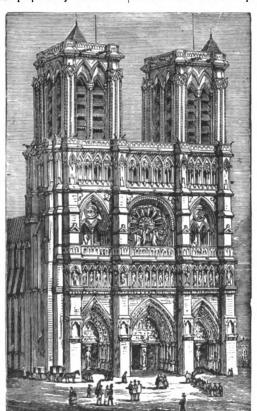
rupt and two-thirds of its obligations repudiated. Internal dissensions among its members lessened the prospect of the Directory's accomplishing any marked improvement.

In this emergency Napoleon, who had secretly left Egypt, where the English fleet had nullified his Eastern victories, appeared suddenly in Paris, and, effecting an alliance with one of the disaffected parties in the Directory, secured its overthrow November 9, 1799. December 27, a new Constitution was offered to the people, which they sanctioned, and Napoleon, as First Consul, was entrusted with the administration of civil and military affairs, with the appointment of all public officials and with the proposition of all public measures.

Early in 1800 he occupied the Tuileries with his wife, Josephine, whom he had married in March. 1796, and he established a court, whose extravagance was hardly likely to incur the popular displeasure as long as his administration continued to be marked by such wise measures as were passed during the earlier part of his rule. The re-establishment of the church, in accordance with a Papal concordat; the foundation of the Bank of France, with the restoration of financial order; the return of the emigrants; the establishment of a sound system of popular education, and the codification of the laws, were hailed with joy by the people, who saw their wisdom and appreciated the good results to follow.

At the head of the Empire he aspired to the control of Europe. One after another Italy, Spain, Portugal, Switzerland and Germany came under his control. He dictated terms of peace to the Emperors of Russia and Austria and to the King of Prussia. For ten years his star ruled in the ascendant. The decline came in 1814, when Paris was entered by the allied enemies of France, and Napoleon was forced to Elba in exile. The Bourbon dynasty was restored, and a year later Napo-

leon reappeared and gathered around him an army of enthusiastic followers. Success attended him at first, but, June 18, 1815, he was thoroughly defeated at Waterloo, and the Bourbon restoration was finally accomplished. In 1830 war was commenced with Algeria, which country was, after some years' fighting, ceded to France. In 1848 the Bourbons were again driven out and a Republic established, with Napoleon III., a nephew of the Emperor, as President. This lasted less than three years. In December, 1851, Napoleon, by the



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infamous coup d'etat, seized the absolute power, setting aside the Constitution, and shortly afterward was crowned Emperor. The imperial prestige was sustained by the wars with Russia and Austria, which last secured France the Italian provinces of Savoy and Nice, but the ill-fated attempt to establish an empire in Mexico, and other failing enterprises, caused it to wane. The plebiscite of 1870, which was intended to secure the popular endorsement of the Napoleonic policy, was not flattering to the Empire, which found itself in 1870 forced into a war with Prussia, the leading events and results of which will be found in the history of Germany. This last experiment of imperial government, which cost France millions of money, thousands of lives and two provinces, has, for the time being, overcome the . rench admiration for centralized power, and the Republic which was established after the war is still a stable and popular government.

The legislative power in France is vested in a Legislative Corps, consisting of a Senate and a House of Deputies. The Senate consists of 300 members, 225 of whom are chosen for terms of nine years by the departments and colonies, and seventy-five for life by the National Assembly. The members of the Chamber of Deputies number 532—one to every 100,000 inhabitants—and are elected by universal suffrage. The executive power is vested in a President, elected for a term of seven years by a joint vote of the Senate and the Chamber of Deputies. He has power to dissolve the Chamber of Deputies on the advice of the Senate. The Secretaries of State, or Ministry, nine in number, are responsible to the Chambers for the political conduct of the Government. The President is responsible in cases of high treason only. Every Frenchman twenty-one years of age has a right to vote..

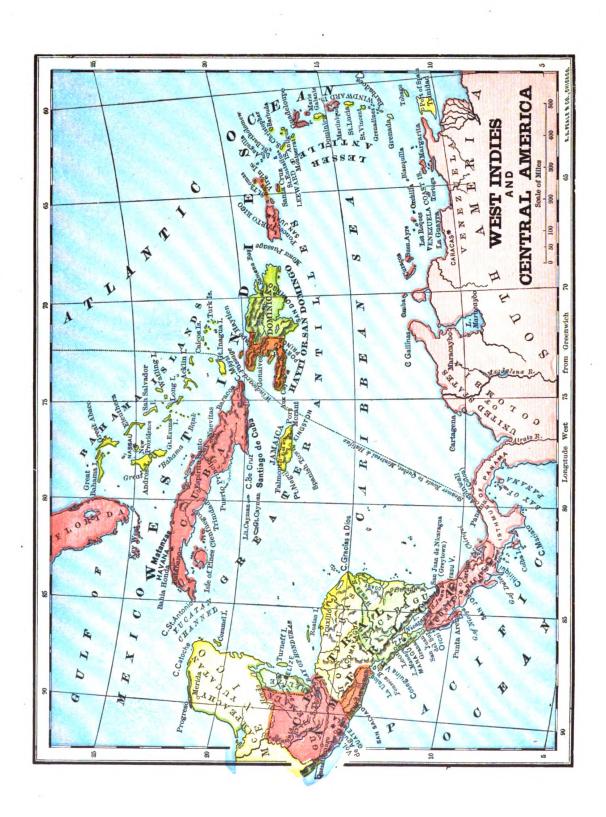




ings of some of their best known authors, had gained some knowledge of the Sarmatians and Scythians, who occupied the rivers Don and Dnieper. Shortly after the commencement of the Christian era the native inhabitants were carried before the invasion of Goths and Huns from the East. The Slavonians are recorded as having driven the scattered Finns northward and settled down to the establishment of the Russian people. The country for a long period remained subdivided into provinces, each of which was practically independent of the remainder. Centralization of power was accomplished from time to time, but only to be again broken up, until in 1462 Ivan I. began to reign, and in the forty-two years in which he held the sceptre succeeded so ably in throwing off the Tartar yoke, and in uniting the principalities under his sway, that he must be regarded as the founder of the Russian nation. His successor, Ivan II., sometimes called the Terrible, or the Cruel, on account of the massacre which he ordered, in which 60,000 inhabitants of Novgorod, suspected of treason, were slain, advanced the work which his father had inaugurated, finally broke the power of the Tartars, and cultivated commerce and the arts as well as warfare. Perhaps the greatest of his peaceful achievements was the effecting of a commercial treaty with Queen Elizabeth, by which the English merchant marine, who had discovered the sea passage to Archangel, instituted trading relations with the northernmost parts of the Russian dominions. Under Peter the Great, Russia threw off her barbarism and took her place among the civilized nations of Europe. Though lacking education commensurate with his position, he had the sense to see the shortcoming and to remedy it, and his studies taught him the lesson of his country's greatest needs. On assuming

HE Greeks and Romans, as is evidenced in the writ-

the government he had the army reorganized in accordance with European military tactics. Seeing the necessity of naval power, and lacking a seaboard, he wrested the Sea of Azof from the Turks. Travelling incognito in foreign lands, he studied their arts and sciences and learned their trades, putting his knowledge to good use when he returned home again. Upon a site located on a strip of land he took from the Swedes, he laid the foundation of the modern capital, St. Petersburg, which he passed the last years of his life in beautifying. Dying in 1725, he was succeeded by his Empress, Catherine, who continued his policy. During the reign of Catherine II. the first partition of Poland between Russia, Austria and Prussia took place. She was succeeded by her son Paul, who still further advanced the interests of his country, now acknowledged to be one of the great European powers. In the reign of Alexander I. Russia was the balance of power in Europe. He was the father of the Holy Alliance—the compact entered into at Paris September 26, 1815, by the sovereigns of Russia, Austria and Prussia, joined by most of the European powers, which bound them to exclude forever every member of the Bonaparte family from any throne in Europe; also to stand by each other in the maintenance of their royal prerogatives and the general peace. It was during his reign that the inhabitants of the city of Moscow destroyed it by fire rather than have it give shelter to the invader Napoleon. His successor, Nicholas I., saw the nation engaged in a struggle with the combined armies of Great Britain, France, Italy and Turkey. Sebastopol, the stronghold of the Russians in the Crimea, was taken, and the Russian ambition to control the whole of the Black Sea checked for the time being. Under Alexander II., who succeeded him, was accomplished the liberation of the serfs in 1861, the humane policy being dictated rather by reasons



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II2 ITALY.

of expediency, imperialism at the time being threatened by the progressive nobility and feeling the need of the good will of the fifty million working people. Twenty years lateryears that were marked by cruel oppression and despotismthe Czar was slain by the hands of assassins, who had previously made repeated unsuccessful attempts to kill him. This occurred shortly after the war with Turkey, in which Russia overcame her foe, but without securing any distinct advantages from the victory. Notwithstanding she is jealously watched by the other powers, Russia continues to approach the accomplishment of her great aim—the possession of the Black Sea. In the East, too, her power is felt, and England's Indian border and China's western boundary are closely pressed by the Russian soldiery, and this, too, although the Government is threatened by conspiracies on every side, a majority of the peasants and laboring classes holding extreme communistic views, while the doctrine of Nihilism is said to permeate the whole Russian social fabric, and even among the nobility to possess its adherents by the thousands.

The Government of Russia is an absolute monarchy, hereditary in the house of Romanoff, which was founded in the seventeenth century, whose head rules by the title of Czar. The State Council, which is the highest consultative body in the State, is composed of the heads of departments and others selected by the Emperor, and is divided into the legislative, administrative and financial departments. The promulgation and execution of the law is left with the Senate, which is the court of last appeal. There is no representative body, and the power of the ministers hardly extends beyond rendering clerical assistance to the Czar, who makes all appointments. Trial by jury has been in vogue since 1866. Established by law and partially supported by the Government, the Russo-Greek Church is almost a part of it. It has a membership of over 50,000,000 souls in European Russia. The Russians have always maintained the national credit. The main portion of the revenue comes from excise duties on beer, spirits and salt; in addition to this there are a light poll-tax and a protective customs tariff.



TALY, the successor of the ancient Roman Empire, has a history which runs back into the ages whose events are only matters of tradition. The Virgilian poem which tells of the founding of the Roman State by a band of Trojan refugees, and the story of the wolf-suckled twins, Romulus and Remus, are delightful legends. However, the foundation of the city is generally conceded to have occurred B.C. 753, when the kingdom was established which lasted until B.C. 509, when it was overthrown in the reign of Tarquin the Proud, and a republic established which lasted for nearly five centuries. During these eventful years the kingdom of Tarquin had grown into a mighty empire, yet not without suffering great national disasters. In the year 390 B.C. occurred the Gallic invasion, with the burning down of Rome by that terrible foe; from 343 to 290 B.C. raged the wars with the Samnites, who threatened the Roman power, but were finally subjugated; in 275 B.C. occurred the battle of Beneventum, by which the previously victorious Pyrrhus was overcome; in 216 B.C. was fought and lost the battle of Cannæ, by which the Carthaginian General, Hannibal, after destroying 80,000 of the Roman troops, came in sight of Rome's conquest, but lost his opportunity through delay; in 186 B.C. the enmity between Rome and Carthage culminated in the destruction of the latter city; in 111 B.C. began the Jugurthine war, in which the powerful Numidian was overthrown after a five years' struggle; in 88 B.C. began the Mithridatic war, which ended five years later in the overthrow of the King of Pontus, who sued for peace. Such were a few of the leading events which occurred

between the regal and imperial eras or Roman history. They bring the reader to a period when Scylla, overcoming his rival, Marius, in civil war, seized the government and reigned as Dictator for three years. In the year 60 B.C. was formed the first triumvirate, when Julius Cæsar, Pompey and Crassus were invested with the government. Cæsar's wars of discovery in Gaul and Britannia followed, and then came the battle of Pharsalia, in which he defeated Pompey. Two years later Cæsar assumed the dictatorship, and in 44 B.C. he was slain in the Senate house by the assassins, Brutus, Cassius and others. Then followed the second triumvirate, and then the battle of Philippi, in which Brutus and Cassius were defeated; then the love episode between Cleopatra and Marc Antony, who, frittering away the opportunity to win the imperial prize at Rome, suffered defeat and death at Actium. In 27 B.C. Octavius established the Empire, under the title of Augustus Cæsar, at which time the city of Rome is supposed to have had about 700,000 population, while that of the Empine is believed to have been not less than 100,000,000. Then followed a line of Emperors, some of them wise and benevolent, others of them rapacious and cruel. Of the latter was the famous Nero, who proved the most bloodthirsty of tyrants. Under him began the persecutions of the Christians. He was accused of having set the city on fire for the pleasure to be derived from witnessing the conflagration. Of the former was Trajan, under whose beneficent administration much was done to civilize the ruder portions of the Empire, while the condition of the city and its inhabitants was greatly

ITALY. II3

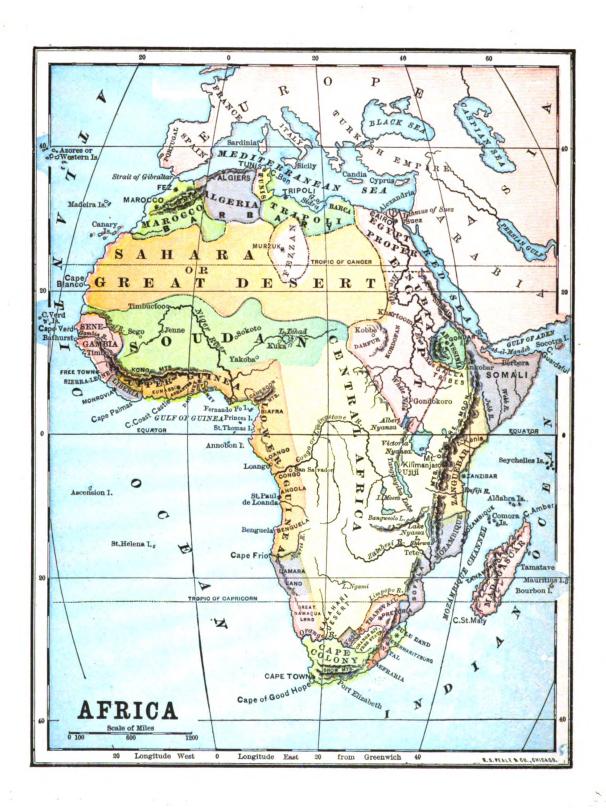
ameliorated. In the reign of Constantine the Great the Christian religion was first acknowledged. He made himself a champion of the church by issuing the decree of Milan, in which he gave it imperial license and avowed himself a believer in its doctrines. Entering Rome in triumph in A.D. 312, he became the first Christian sovereign of the world, and after defeating the Pagans in their fortress of Byzantium he became sole Emperor of the entire Roman Empire. He transferred his capital from Rome to Constantinople, where he reigned until the year 337. His son Julian, who succeeded him, had been educated a Christian, but reverted to the old Pagan faith; but the next Emperor, Jovian, restored the Christian faith. In 383 the Roman Empire had three Emperors, who soon were at war, and the victor, Theodosius, divided the Empire into Eastern and Western at his death, in 395, putting one of his sons at the head of each. From this division resulted the Roman and the Greek churches. Roman imperialism reached its last stages in the fifth century. Alaric with his Northern hosts marched into Rome, wrought his pleasure there, and retired from it after twelve days of sack. Rome had fallen, and such events as are further mentioned may be regarded as belonging to Italian history proper. In the fifth century Venice was founded by fugitives fleeing before Attila. In the eighth century a Germanic tribe threatened Rome. In the ninth Charlemagne conquered Lombardy and assumed the title of Roman Emperor, the control of the city, however, being taken by the Pope. The German Kings conquered the northern portion of Italy, while the Byzantine Emperors and the Saracens ruled the southern portion until the uprising of the Normans. Several of the Italian cities, however, increased so in strength and riches as to be able to achieve their independence, and chief among these was Venice, which commanded the Adriatic Sea and kept back the Turks from the invasion of Western Europe. In the eighteenth century Austria obtained large portions of Italy's northern territory, while the republics of Venice and Genoa dwindled away. The remainder of the land was divided among petty sovereigns, who enjoyed life until the terrible days of the French revolution, after which Napoleon divided Italy into four republics, next establishing it as a monarchy, placing first his brother, Joseph Bonaparte, and then Murat, over it. After the battle of Waterloo the final reconstitution of

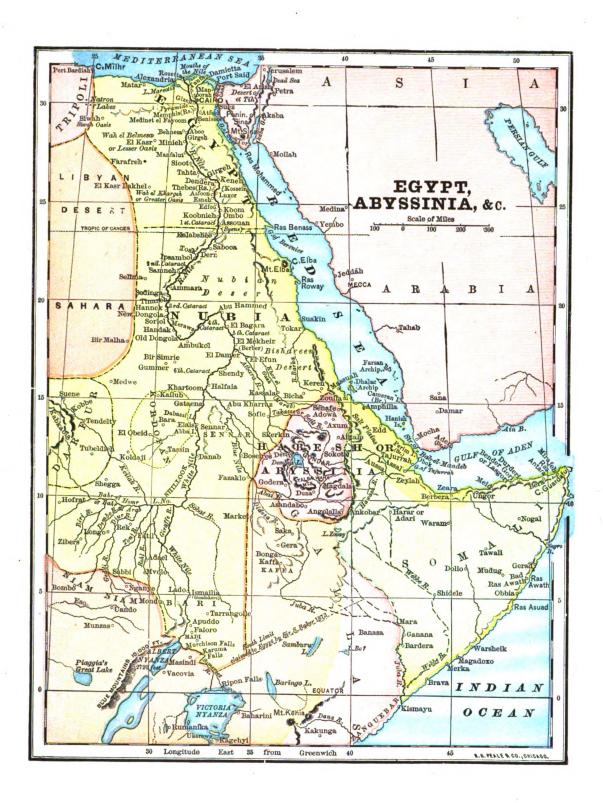
Italy was decreed by the Congress of Vienna. Almost all the old boundaries and the old tyrannies were restored, followed by the outbreak of the Carbonari, whom the Austrians subdued

In 1848, by a simultaneous insurrection in Lombardy and Venice, the great revolution was inaugurated. Supported by the Pope and the King of Sardinia, it was successful, and Lombardy was annexed to Sardinia. In the year following, however, Austria regained that territory. After an unsuccessful revoit in Milan in 1853, and in Sicily in 1856, the French effected an alliance with the Sardinians in 1859, and Austria was defeated in the great battles of Magenta and Solferino, which were followed by the hasty and inconclusive peace of Villafranca, which left Venetia to Austria, gave Lombardy to Sicily, and left unsettled the question of the Grand Duchies. Savoy and Nice were ceded to France, which still holds them, while Parma, Modena and the Sicilian provinces were incorporated with Sardinia. March 17, the law by which Victor Emmanuel assumed the title of King was promulgated. May 6, Garibaldi joined, with 1,000 men, a revolution which had broken out in Sicily. Declaring himself Dictator, he headed the revolt and speedily conquered the Two Sicilies. March 14, 1861, Victor Emmanuel was declared King of Italy by the first Italian Parliament. In the same year, on June 6, occurred the death of Cavour, who was the originator as well as the director of the Sardinian policy which resulted in Italian liberation. In 1866 Italy and Prussia united their forces against Austria, and Venetia was ceded to the Italians. Attempts were made by Mazzini and Garibaldi to drive the French from Rome, but they remained there until the war with Prussia. In 1867 the French army began to be withdrawn from Rome, and three years later the last detachment had left the Pontifical territory. September 20, 1870, the Italian army entered Rome, and October 9 the Papal States were declared part of the Kingdom of Italy. During the latter years of King Victor Emmanuel's reign he strengthened and consolidated his kingdom, and, dying in 1878, he was succeeded by his son Humbert, who still reigns.

Italy is a limited monarchy, with a Senate appointed by the King for life, and a Chamber of 508 Deputies, elected by popular suffrage for a term of five years. Annual sessions are held by the Chamber. Local self-government is accorded to the provinces, and municipal privileges to many of the cities.









ECORDED history gives the Phœnicians the credit of having first established colonies upon the shores of Spain, which at that time was occupied by Celtic tribes. Later appeared the Greeks, who called the country Iberia, which name gave way to that of Hispania, from which the modern name is derived, when the Romans took possession of the country. After them the Carthaginians appeared, conquering a stronghold upon the country and establishing cities, one of which, Cartagena, situated upon the Mediterranean coast, is now a handsome city of 80,000 inhabitants. After the Punic wars the Romans again obtained possession of Spain, which readily improved the opportunity offered of advancement in civilization. In the reign of the Emperor Constantine, Christianity, which was introduced earlier, became the general religion. In the year 409 the country was overrun by vast hordes of barbarians who crossed the Pyrenees and made a clean sweep of the country, and in 412 the Visigoths invaded it, and a Gothic monarchy was established by their King, Athaulf, in Catalonia. Its first written laws were given to Spain by one of the Gothic dynasty of kings. In 711, the Moors subjugated a large portion of the country, and held the southern part of it as a dependency of their North African dominions. From A.D. 717, their Spanish territory was governed by Emirs, appointed by the Caliph of Damascus. Under the independent dynasty which the Moors established Southern Spain flourished in agriculture, commerce and the arts and sciences. Wars occurred constantly between the Moors and the Gothic princes, who had maintained possession of the Cantanabrian territory, but the Christian kingdoms continued to grow in power, and, uniting at last, they succeeded in driving the intruders from the country. In the Kingdom of Granada the Moors made their final stand, but at last they succumbed to the troops of Ferdinand and Isabella. Of the Christian States at this time Arragon and Castile were by far the most powerful, and in time their sway extended all over the country. Ferdinand II., the last of the Arragon sovereigns, by his marriage with Isabella, Queen of Castile, followed by the conquest of Granada in 1492, and of Navarre in 1502, accomplished thus the unification of Christian Spain, which now entered upon its most glorious epoch. Spanish discovery gave America to the civilized world, and, Spanish conquest extending her rule over Naples, a large portion of North, Central and South America, the new Kingdom at once attained rank as one of the great powers of the world. New riches were secured by Cortez' conquests in Mexico, and Pizarro's in Chili and Peru, but in the reign of the Philips the decline of Spanish power began and accelerated. Portugal had been conquered in 1581, but in 1640 she obtained her independence, and during this period Spain suffered other serious diminishments of power and resources. The reign of Charles III. promised to bring the country back to something like its old glory, but his successor embroiled the country in inglorious wars which cost it its valuable possession of Louisiana, in America, ceded to France in 1800, while England destroyed the Spanish navies. Ferdinand VII. was removed from the throne by Napoleon, who placed his brother Joseph in his stead. England, at that time at war with Spain, ac knowledged Ferdinand as King, and joined the Spaniards in their endeavors to drive out the Bonaparte, and lent the support of its armies under Wellington. Ferdinand's rule was re-established, but his reign was marked by insurrections which cost the country very dearly. His daughter, Isabella II., succeeded him, but her political and personal misconduct brought about many rebellions, that of the Carlists in 1834-9 being the most serious. In 1868 she was driven from the throe and forced to fly to France, and two years later Prince A adeo of Italy, the second son of King Victor Emmanuel, was elected by the Cortes and declared King. A year later he abdicated, whereupon Don Carlos, a grandnephew of Ferdinand VII., claimed the throne, and made an unsuccessful attempt to gain possession of it. A democratic federal republic was then declared and a President elected, who had two successors within three months. Castelar, who had been elected in September, 1873, resigned in 1874. The Cortes dissolved, and General Serrano was charged with the duty of forming a new ministry. He coped successfully with the Carlists, who were then making strenuous efforts to gain a foothold, and retained executive power until January, 1875, when Don Alfonso, son of the ex-Queen Isabella, who had been declared King at Santander the month previous, landed in Spain and took the field against Don Carlos. He was finally victorious. Don Carlos surrendered his claim to the throne, and the young King at once devoted his attention to the work of reorganizing the Government and the development of the country.

In June, 1876, a Constitution was proclaimed, which provides that the Government shall be a constitutional monarchy, giving the executive authority to the King and placing the legislative power in the Cortes with the King. The Cortes comprises a Senate, which is divided into three classes, and a Congress, consisting of Deputies, one of whom is allowed to every 50,000 inhabitants. Spain is divided into provinces, districts and communes, which have municipal rights which the naticual executive and the Cortes are bound to respect.

PORTUGAL. 6



IKE Spain, Portugal was early inhabited by the Celts, who were succeeded in turn by Phœnicians, Carthaginians and Greeks, who built cities along the coast which formed the nuclei of colonies. Like Spain, too, it suffered from Vandal and Visigothic invasion. In the eighth century the Moors conquered the country, which they held until about the end of the eleventh century, when Alfonso VI. of Castile and Leon drove out the invaders. It was the son of Henry of Burgundy, Don Alfonso Henriques, who established the Portuguese monarchy, after defeating the Moors at the battle of Ourique in 1139. Eight years later the Moors were deprived of Lisbon, and a century later they were entirely driven from the country. Alfonso's successors proved able monarchs, and under their rule the country advanced rapidly. During the reign of King John I. began the era of Portugal's superiority in seamanship, which made Lisbon a city of such vast commercial power. In 1415 the country gained its first foothold abroad, when the sea-captain Zarco discoveregithe island of Madeira. Later on, Portuguese sailors discovere the Azores and Cape Verde. In 1486 Bartholomeu Dias discovered, and in the following year Vasco da Gama doubled the Cape of Good Hope, and pursuing his journey reached Malabar. Still more important for Portugal, as events turned out, was the discovery by Pedro Alvarez Cabral, in 1500, of Brazil, which was followed by the formation of a colony which

has since developed into the Empire of Brazil. A dispute with Spain over a question of succession brought about a war with that power, and for sixty years thereafter Portugal remained in subjection to her neighbor on the Iberian Peninsula. In 1640, however, the Duke of Braganza headed a Portuguese revolution, was successful, and ascended the throne as John IV. In 1807, the Government having taken sides against Napoleon, the latter invaded the country, declaring it part of France, and the throne vacant. When the French soldiers arrived, the Regent, John Maria Joseph, Prince of Brazil, who ruled in the place of Queen Maria, who was insane, sailed for Brazil. At Napoleon's downfall he appointed his son, Dom Pedro, Regent of Brazil, and returned to Portugal. In 1822 Dom Pedro became Emperor of Brazil, the succession being accomplished without bloodshed, and a few years later he came into possession of the crown of Portugal also, which he surrendered to his daughter, Donna Maria, preferring to remain at Rio Janeiro. Civil war arising not long afterward, the British interfered, and since then they have held the country in a condition of semi-subjugation.

The Government is a hereditary constitutional monarchy, with the legislative power vested jointly in the sovereign and a Cortes which comprises a Chamber of Peers and a Chamber of Deputies, of which the King nominates the former for life and the people elect the latter.



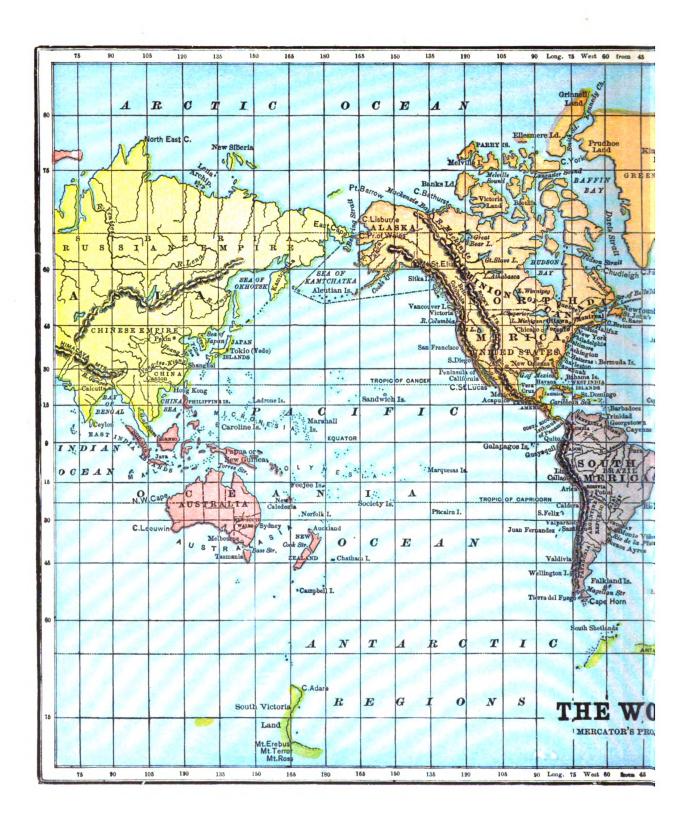


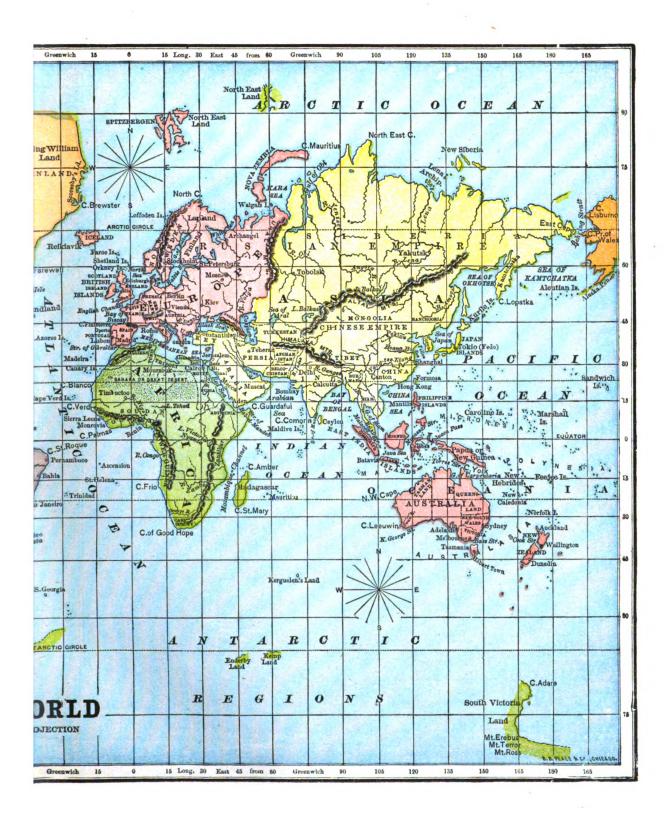
a Roman province and was held as such for several centuries, until successive invasions of German tribes occurred. In the fifth century the Burgundians, Goths and Allemanians divided the province among them, but in the century following the Franks captured it. Christianity was introduced in the seventh century by sish monks, and monastic institutions were founded. In

e latter part of the ninth century Switzerland was taken

RIGINALLY occupied by Celts, Switzerland became

from the Franks, Germany gaining the northern and Burgundy the southern portion of the land. An alliance was formed later by Zurich, Berne and Basle against the neighboring powers which held the country, and a brave endeavor in the direction of independence was made. Attempts by Austria to incorporate the Swiss Cantons with her domain were nobly opposed, and the war which followed, lasting 200 years, sundered the relations of Germany and Switzerland. Imperial power was assumed in 12/3 by Rudolph of Hapsburg, a Swiss





nobleman, and in 1201 the Cantons of Uri, Unterwalden and Schwyz formed a league against foreign oppression. In 1315 this was established as a perpetual confederacy, and in the course of time other Cantons joined them. Lucerne, Zurich, Glarus, Zug and Berne by 1353 had become members of "The Perpetual League of the Old Places of the Confederacy," which was the foundation of the Swiss Confederation. In 1415 the inhabitants of the Cantons invaded and annexed parts of the Austrian territory, and three years later they annexed Ticino. In 1481 Solothurn and Freiburg were admitted, which was followed by internal dissension, lasting until 1499. Two years later Basle and Schauffhausen were admitted, as was also Appenzell in 1513. There were now thirteen Cantons, and the true independence of the State was established. In 1531 war broke out between the Catholics and the Protestants, and the former were victorious. Berne and Zurich managed to maintain the neutrality of Switzerland during the Thirty Years' War, and in the Treaty of Westphalia in 1648 Switzerland was acknowledged as an independent State. At the time of the French Revolution Switzerland was invaded by two French armies, which captured the city of Berne and proclaimed the Helvetic Republic, designating Aarau as the capital. In 1802, civil war dividing the Cantons, Napoleon undertook to reorganize the country, and the people accepted his suggestions, but in 1809 a new Constitution was formed which added three new Cantons-Geneva, Vallais and the Prussian principality of Neufchatel-to the nineteen which had been framed by Napoleon. The European powers ratified this change and declared the perpetual neutrality and inviolability of the Confederation. During the excitement aroused by the French Revolution agitations in the direction of liberty resulted in the reorganization of cantonal constitutions, which were made more liberal and democratic. Religious troubles reappeared in 1834 and lasted for some years, finally resulting, in 1847, in the expulsion of the Jesuits and the suppression of the monasteries, which excited the anger of some of the powers which attempted to intimidate Switzerland. In 1848 Neufchatel declared her independence of Prussian control, which nine years later was acknowledged. Switzerland made, in 1860, an unavailing protest against the annexation of Savoy to France.

By the revised Constitution of 1874 it is provided that all the rights of sovereignty not transferred to the Confederation shall be exercised by the twenty-two Cantons. Every Canton's Constitution is guaranteed if it is republican in form, if it has been adopted by a majority of the people, and if it can be revised on a demand of the majority of the voters. There is a Federal Assembly which comprises a National Council and a Council of States. The executive authority is exercised by a Federal Council, which has seven members, each of whom has a department. The President and Vice-President of the Federal Council, also President and Vice-President of the Confederation, are chosen for one year only and are selected from the Council by its members.





N 1330 begins the Ottoman career of conquest. About that time Orcan, leader of a tribe inhabiting the Altai Mountains, led his hardy Janizaries against Nicomedia and Nicola. He called the gate of his palace the Sublime Porte, and himself Padisha, both of which expressions are still extant. His successor located his capital at Adrianople, and during his rule the Turks fell under the relentless hand of Tamerlane, who, in 1402, routed them in battle, but effected no permanent occupation of their territory. Recovering from the rude assault, the Turks, in less than a generation, greatly humiliated the Byzantine Empire, which ceased

to exist later, giving way before the irresistible Mohammed II., who transferred the seat of empire from Adrianople to Constantinople. The capture of Constantinople was followed by other important cities in Eastern Europe, and during the next century the Turkish Empire constantly grew in power. Greece and Arabia were added to the domain of the Porte. The glory of Islam culminated in the reign of the third Sultan of Stamboul, Solyman the Magnificent, which lasted from 1520 to 1566. His ambition was to conquer Western Europe and establish the Crescent throughout the continent, and for many years it looked as though he would succeed. He did extend

TURKEY. 12I

his empire considerably, but his grand hope was destined for non-fulfilment. He died in Hungary, where he was conducting a victorious campaign, in 1481, and with his death began the decline of the Ottoman Empire. It was by no rapid national decay that the Turk fell from his high estate under Solyman to his lowly condition under Abdul Hamid, the present ruler. For centuries Turkish incursions carried terror into the lands of Russia, Hungary, Poland and Italy, while the whole of Europe felt apprehensive of Ottoman supremacy. It was not until near the close of the eighteenth century that the tide set in steadily against the Turk. Catherine of Russia

was the first to bring the Crescent low, but England and France objected to the partition of the empire between Russia and Austria, and obtained for the Sultan terms of peace which secured the autonomy of the Ottoman Empire. This has been maintained since by the friendly interposition of the anti-Russian powers, who see that so long as the Sultan of a people who have lost all aggressive ambition rules at Constantinople the "balance of power" is safe. In the war with Russia in 1877-8 Turkey suffered a very serious loss of terri-

tory, the treaty of Berlin reducing her area from 1,742,874 square miles to 1,116,848 square miles, and her population from 28,165,000 to 21,000,000. Turkey in Europe was reduced more than one-half in both territory and population, the cessions under the treaty being as follows: Bulgaria, Eastern Roumelia, Bosnia and Herzegovina, Roumania, Servia, etc., and parts of Thessaly and Epirus. In the same

year, too, the island of Cyprus was placed under British control.

As to the Government of the Ottoman Empire, it can generally be said that the precepts of the Koran are the foundation of its fundamental laws. Absolute power is vested in the Sultan, as long as his acts remain in conformity with Mohammedan doctrine. Forms of constitutional limitation upon the arbitrary authority of the Sultan have been adopted recently, but in point of fact the legislative and executive departments of the Government are in the hands of his Sublime Highness, and the functions of law are directed by two

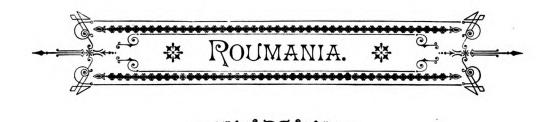
officers, the Grand Vizier, who looks after secular affairs, and the Sheik-ul-Islam, who is the head of the church. There is a body or class known as the Ulema, which comprises the "Mufti," or interpreters of the Koran, the judges and high functionaries of the law. "Bey" is a general term, applying to all important civil officers, while " Pasha" is the designation of taxgatherers and other officers who are both military and civil in function. A ministerial council, or cabinet, called the" Divan," which is presided over by the Grand Vizier,

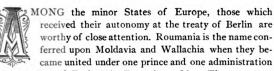


VIEW OF CONSTANTINOPLE.

exists, comprising eight ministerial departments, namely, War, Finance, Marine, Commerce, Public Works, Police, Justice and Education. The empire is divided into vilayets, under Governors, of which there are four in European Turkey, exclusive of the district of Constantinople. Cruelty and venality are the main qualities of the Governors, whose rule is very arbitrary.







as a province of Turkey, in December, 1861. The representatives of the people met at the capital, Bucharest, May 21, 1877, and proclaimed absolute independence of Turkey, which the treaty of Berlin confirmed the following year. The Government is an elective and strictly limited constitutional principality. Karl I. is the present Prince.

BULGARIA.

Bulgaria, an autonomous principality tributary to Turkey, constituted previous to 1878 the Turkish Danubian vilayet. Her subjection to the Porte dates from 1392, but nearly five centuries of Moslem misrule and oppression have not deprived the people of their national pride and desire for independence. In 1876 they rose against their oppressors, but were unsuccessful, and the atrocities which the ferocious Bashi-Bazouks committed in suppressing the revolt, together with the lamentable condition of other Turkish provinces, led to the Turko-Russian war. At the treaty of Berlin, the erection of a Bulgarian principality was not permitted, but the province was granted its autonomy. Eastern Roumelia, lying to the south of Roumania, also was granted administrative autonomy.

SERVIA.

Servia gained independence of Turkey at the same time and in the same way as Roumania. It was virtually free, however, as early as 1829. Under the present Prince, Milan II., the fourth of his dynasty, a government similar to that of Roumania is carried on.

BOSNIA and HERZEGOVINA, according to the same treaty, were to have their administration conducted by Austria-Hungary.

HNDORRA.

In the Eastern Pyrenees, nestling among the high mountains, is the tiny European republic of Andorra, which has maintained its independence since the days of Charlemagne. Its area is 149 square miles, and the burden of its government rests lightly upon no less than twenty-four Consuls.

SAN MARINO.

Of all the republics in the world that of San Marino enjoys the double distinction of being the oldest and the smallest. Situated in Eastern Central Italy, it has an area of twenty-two square miles, and a population of 10,000, an army of 819 men, 131 officers, while the Government, since 1847, has consisted of two Presidents, elective for six months, and an Executive Council of twelve, and a Senate consisting of sixty life members.

MONAGO.

Still smaller than San Marino is the principality of Monaco, whose ruler conducts the affairs of a population of a little over 3,000 within an area of six square miles. Monaco is a favorite resort for invalids, but its chief notoriety comes from its gambling-houses, which are here legalized, and patronized by European tourists. From this source a revenue of \$350,000 per annum comes to the Prince of Monaco, who spends it in Paris, where he has his residence.

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UT little remains to-day of the glories which once belonged to this most remarkable and interesting country. Of the early history of Greece but very little authentic knowledge is available. Hellen was claimed by the Greeks as their common ancestor, the popular belief being that from his sons, Dorus, Æolus, and his grandsons, Ion and Achæus, sprang the four different branches of the nation: the Dorians, from whom the Spartans were descended; the Ionians, from whom sprang the Athenians; the Æolians, whose dialect developed itself into the songs of Sappho; and the Achæans, who occupied Mycenæ, Argos and Sparta. Previous to the Hellenic inhabitants of Greece were the Pelasgians, who had a different language. Many indications go to show that Egyptian and Phœnician immigration had a large influence upon Grecian civilization, whose alphabet is apparently of Phœnician origin. What is known as the heroic age of Greece is a fragment of the poetic imagination of such minds as Homer and other great poets, who told the story of the great deeds of heroes, who, descended from the gods, performed deeds of supernatural valor and strength. Still, modern research has shown that much which has been gravely condemned as fiction has been actual occurrence, the persistent spade of Schliemann even establishing the fact that the siege of Troy was no myth, and that the story of Achilles' wrath may to-day be read in the ruins of the ancient city.

From first to last Greece was divided into numerous independent States, whose union was confederate rather than federal. Authentic history dates from 776 B.C., when the first Olympiad was held. Sparta at this time was the smallest and least important of the States, but the genius and valor of her citizens made her famous and strong, and by the sixth century before the Christian era foreign conquest and internal advancement had placed her in the lead as to power and wisdom of administration. Greece was at this time the acknowledged centre of European civilization. Persia now began to dispute the Hellenic advancement, and the battles of Marathon, Salamis and Thermopylæ were among the most famous encounters between these powerful nations. In B.C. 431 began the Peloponnesian war, the great civil war of Greece, which continued with hardly any cessation of hostilities for twenty-seven years. In 344 began the interference by Macedon in Peloponnesian affairs, which led to the wars which ended with the supremacy of the Macedonians, whose rule lasted until 325 B.C., when the Athénians accomplished temporarily their independence. In B.C. 214 occurred the first collision between the Greeks and the Romans, who in B.C. 200 invaded the country, and three years later conquered the Macedonians. About twenty years later war arose again between the Romans and Macedonians, who were defeated and their country made a Roman province. In B.C. 146 occurred the battle of Leucopetra, which completed the dissolution of the last of the Greek leagues, the Achæan, and henceforth Greece was under the Roman yoke. The Roman Senate, and afterward the Emperors, treated the fatherland of their own civilization with kindness, and it was not until the Byzantine Empire placed its cruel foot upon the Greek neck that all free institutions and popular rights were disregarded.

Though conquered in war, Greece still remained the leader of the world in literature and the arts. Her temples and statues, her schools of philosophy and rhetoric, still maintained her dignity among the nations. After the Byzantine invasion the adherents of the ancient religion only retained the name of the ancient Hellenes, and in the reign of Justinian, in the sixth century, the teaching of doctrines opposed to Chistianity was forbidden. From the fifth to the eighth century Slavic and other foreign people appeared in Greece, but they were finally expelled. Its ancient inhabitants regained the country, though the Slavic influence is still evident in certain parts of it, especially the Southern Peninsula. In the eleventh century, the Normans appeared from Sicily and plundered and ravaged the cities of Thebes, Athens and Corinth. In 1203 the Latin Princes appeared in the Crusade, conquered Constantinople, and divided Greece among them, establishing a number of principalities, which Frankish governments were swept away by the Turks in 1453, when they captured Constantinople and extended their conquests in a few years over the whole country, which they made a portion of the Turkish Empire. Abject misery was the condition of the country under the Turks. In 1687 the Christian League, under Venetian leadership, besieged and took Athens, but a few years later the Venetians were expelled, and the Moslem once more ruled Greece, keeping it in a most deplorable condition of subjugation. Toward the close of the eighteenth century the national spirit again began to assert itself, and secretly the preparations were begun for throwing off the Ottoman yoke. They were completed in 1821,

when the Greeks arose in insurrection against the oppressor. On their side was the sympathy of the whole civilized world, and money and men were supplied the struggling State from all directions. In 1822, the Moslems increased the execration in which they were held by massacring over 100,000 of the inhabitants of the island of Scio, reducing the population from 120,000 to 16,000. Four years of heroic war found the Greeks exhausted and at the mercy, if such existed, of the conqueror, but the diplomatic interference of England, France and Russia stayed the ferocious hand of the Turk, and proposed that Greece should be constituted as a tributary province, with the right to choose its own government. Greece was willing to accept the terms; the Ottoman Empire rejected them. War was declared by the allied powers against Turkey, whose fleet was almost destroyed, and in 1828 they decided to create Greece an independent kingdom. The crown was offered to two foreign princes and was declined by the first, while the second was assassinated. In 1833 Otto, son of the King of Bavaria, assumed the reins of government, and in 1835 the capital was established at Athens. In 1844, in recognition of a popular clamor, a Constitution was granted to the people, and after a stormy reign of nearly thirty years he was requested to abdicate, and accepted the invitation. An election by universal suffrage resulted in the choice of Prince George of Denmark, who accepted the throne on condition that England surrender the protectorate of the Ionian Islands, against which the people had rebelled, which was granted by that power. In 1863, the new King was crowned as George I., whose reign has since proved acceptable to the people. In 1866, a revolution in Crete strained the relations of Greece and Turkey, but the danger was finally averted.

Greece is governed in accordance with the Constitution elaborated by the constituent assembly in 1863 and adopted in 1864. A single chamber of representatives, known as the Boule, hold the legislative power. Annual meetings are held by the Boule, whose members are elected by manhood suffrage for a term of four years. Executive power is vested in the King and his responsible Ministers, the heads of the following departments: Presidency of the Council, Interior, Finance, Justice, Education and Ecclesiastical Affairs, War, Marine and Foreign Affairs. A Council of State is provided for, with power to review or amend bills passed by the Deputies, but of late years its services have not been employed.





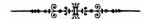
than any other of the continents—its inhabitants in fact outnumbering those of the remainder of the earth—Asia, on account of her not having come to any great extent under the influences of modern civilization, is as weak in power as she is strong in numbers. In ancient days this was different: the world's history was then largely framed by its Asiatic sons, who contended successfully against Egypt and Greece, and later on helped to build up the glory of the Macedonian and Roman Empires. It was from the regions north of the Caspian Sea that the Huns came, and, following the star of empire, marched westward

and settled down in various parts of Europe. Over the plains

THOUGH containing a vastly larger population

of the Slav swept the victorious armies of Timour and Genghis Khan, and later the Caliphs, at the head of their Arabian troops, carried the Koran and the sword throughout Asia, Europe and Africa, and established religious nationalities which are, to a certain extent, formidable even in this day of their decadence. Before their march the Roman Empire gave way, and the Turkish dominion raised, which for so many years held other European powers in awe. With a population of 834.707,000, as compared with that of Europe, 315.929,000, it seems as though the day must come when Asiatic supremacy will exist as a fact. Asia has a great deal to learn, however, of the modern spirit and system of government, before it can hope to cope with the more persistent, audacious and intelligent continent to the west of it





VTHOLOGY, rather than history, must be crediced with the earlier chronicles of the Chinese, whose actual record, however, extends back 2,400 years previous to the Christian era, and contains the record of a great flood, which

many have supposed to be identical with the deluge of the Pentateuch. Certain it is that the Great Wall, which extends 1,250 miles along the northern boundary of China, was erected 250 years before the Christian era, when the Tsin dynasty was founded by Chwang-Siang. In the thirteenth century a Mongol dynasty was formed by Genghis Khan, after his capture of Pekin. European visits began in this century, when Marco Polo reached China by the overland route. Portuguese and Dutch traders followed, and in the seventeenth century England visited the country, and after several unsuccessful negotiations the East India Company was allowed, in 1684, to trade with the natives. But little was done, however, until the opium trade set in, at the beginning of the present century, and soon attained enormous proportions. An attempt was made by the Chinese Government to exclude the pernicious drug, but the traders of the East India Company evaded the restrictions placed upon its entry, and this led to the Anglo-Chinese war, known as the opium war, which closed with the treaty of Nankin and the opening of five ports-Canton, Amoy, Foochow, Ningpo and Shanghai-to the British in 1842. American trade with China was inaugurated in 1784, when the ship Empress made a successful voyage from New York to the Celestial Empire. In 1844 the first American treaty of amity and commerce between the United States and China was negotiated at Macao, and in 1867-8 a more important one was negotiated by the Hon. Anson Burlingame, which was revised in 1880, in order that an understanding might be reached with the Chinese Government in relation to the emigration of its subjects to this country, where opposition to Chinese cheap labor had been aroused in California and other sections. Such treaties as the Europeans have with China have been wrested from that country by force of arms, and during a war in 1860 the French troops captured the Emperor's summer palace, at Pekin, and carried off several millions of dollars' worth of booty. The most important event of modern domestic Chinese history was the Taeping revolution, which lasted from 1851 to 1864, and had for its object the overthrow of the Manchoo or foreign dynasty. Dissensions among the insurgents and the employment of European and American officers by the Government were the main causes of the failure of the uprising.

An Emperor rules China, aided by the Interior Council Chamber, which is mainly composed of high nobles. The provinces are governed by Imperial Governors and Executive Boards. Bribery and corruption prevail throughout the civil service, which is a monstrous institution. Competitive examination is the basis of the service, the intention being to secure for official positions the most intelligent and best educated men of the empire.





who had a written language and were fairly advanced in civilization, the island of Japan subsequently fell into the hands of the Mongols, the present occupants being akin to the Chinese, whom they resemble in appearance. According to Japanese history, the ruling dynasty claims twenty-five centuries of unbroken succession, descent being claimed from the first Mikado, Jimmu Tenno, who was

RIGINALLY inhabited by a race known as the Ainos,

reputed to have been of divine descent. Buddhism was introduced into Japan in the sixth century. Marco Polo was the first European to write of Japan, and the first Europeans to land upon its shores were Portuguese mariners. About the middle of the sixteenth century one of the smaller islands was visited by Fernam Mendez Pinto. In 1549 St. Francis Xavier landed and introduced Christianity, and he was followed by many others. In 1615 the priests were exiled, and nine years

later all foreigners except the Chinese and the Dutch were expelled from the island, and the emigration of natives was prohibited. In 1637 the massacre of the Christians began, and for over two centuries Japan was left to itself. In 1854, however, Commodore Perry, of the United States Navy, effected a commercial treaty with Japan, which resulted in opening Japanese ports to American ships, and after a struggle with the old court party the civilization of the West began to grow in popular favor, liberal ideas struck root, and national progress was evidenced in a number of valuable reforms. In 1868 the executive power of the Japanese Government was

concentrated in the Mikado, and since then the work of advancement has gone on very rapidly, promising to open up to American enterprise a large field for the exportation of her machinery and other manufactures.

Absolute power in temporal and spiritual affairs is vested in the Mikado. He is assisted in government by an Executive Ministry similar to that which existed during France's second empire. A Senate of thirty members and a Council of State are consulted at pleasure by the Mikado. Prefects govern in the provinces, one being given to each of the seventy-five districts which make up the Mikado's realm.





ARLY Indian history, extending back millions of years, is composed of a confused mass of fabulous chronicles. Research by careful historians leads to the belief that the Aryan Hindoos settled the country some fifteen centuries before the Christian era, at which time the Brahminical religion and the social institution of caste are believed to have been in existence in undeveloped shape. About five centuries before Christ the northwestern provinces of the country were conquered by the Persian monarch Darius, and later Alexander the Great invaded India and conquered some of its provinces. In the eighth century the province of Scinde and the Southern Punjaub were invaded by the Mohammedans, who were later expelled by the Hindoos. In the beginning of the eleventh century they returned and conquered all Northern India. At the close of the sixteeenth century occurred the invasion of Tamerlane. In 1526 Baber, the Mogul Sultan of Cabul, invaded India, and established the Mogul dynasty, whose strength culminated with Aurungzebe, who subdued almost the entire peninsula, and Mohammed Shah. In 1739 occurred the invasion of Nadir Shah, King of Persia, who overcame the empire and occupied Delhi, from which city he removed enormous stores of precious stones and metals. The restoration of the Mogul dynasty was followed by another incursion of the Mahrattas, who in the eighteenth century were entirely overthrown by the Afghans. European attention was at last called to the country, and in the sixteenth century settlements were made upon the coast by Portuguese explorers whom the Dutch expelled later. Great Britain, represented by the East India Company, effected settlements during the seventeenth century, and in the middle of the eighteenth came into conflict with the French, who had also gained a foothold, and after a hard struggle overcame them.

Under Lord Clive the British troops vanquished the Emperor of Delhi and the King of Oude, and gained possession of Bengal, Berar and other provinces, which acquisitions were added to as years went by. For many years British rule was quietly submitted to by the natives, its enforcement being accomplished by the army of native troops, under English officers, armed by the East India Company.

In 1857 a revolt occurred, and the Kings of Delhi and Oude, at the head of the rebellious Sepoys, threatened for eighteen months to wrest the mastery of India from England. Frightful massacres, attended with indescribable atrocities, were perpetrated by the rebels, and the measures of reprisal adopted by the English were hardly less terrible. After the rebellion had been crushed the British Government assumed direct control of the country, the East India Company being deprived of a monopoly which had brought in an annual revenue of many millions. Since then the British have largely advanced their Indian frontiers. In 1876 Queen Victoria was proclaimed Empress of India.

The Government, which regulates the affairs of nearly two hundred millions of people, is practically a military despotism, which is made possible by the division of the native population into Hindoos and Mohammedans. A Governor-General, appointed by the ruler of Great Britain, holds the executive authority and acts under the English Secretary of State for India, who is advised by a Council, a majority of whom are appointed by the Crown. Lieutenant-Governors of the provinces and minor officers are appointed by the Governor-General. The officials are almost all Englishmen. Self-government prevails in the villages and townships, which levy and expend their own taxes under a system which has prevailed in India for ages, and which provides the only exception to the rule that all power rests in the hands of the resident Europeans.



FGHANISTAN AND BELOOGHISTAN







a nation, Afghanistan, although only dating from 1747, when the successful soldier Amhed Khan assumed regal power, and possessing but a small territory and population, has, by her wars with foreign powers, so impressed the world with the warlike

character of her people, that her history possesses a unique interest. Amhed Khan's most important war was with the Mahrattas, whom he overthrew in 1761, and when he died, twelve years later, he left to his son, Timour, an empire reaching from the Indus to the Oxus, while Khorassan, Beloochistan and Scinde acknowledged his rule as tributary provinces. After Timour came anarchy, and the Punjaub and Scinde were lost, while Persian encroachments endangered the country. Diplomatic relations with the English, who regard Afghanistan with peculiar interest, as being the "key to India," were opened in 1809, and a permanent English resident at the Ameer's court was appointed in 1837. The relations of the two councries failed to remain friendly, and in 1838 Lord Auckland, the Governor-General of British India, declared war against the Ameer, Mohammed Khan, who was defeated. Satisfied with the invasion they had accomplished, the English withdrew, leaving an army of occupation behind them. In 1841 Akbar Khan, son of the deposed Ameer, organized a conspiracy against the English occupants of the country, which resulted in the murder of the British Resident and Envoy, after which the invaders promised to leave the country, Akbar Khan agreeing to provide them with an escort. This promise was not kept, and the army, together with camp-followers, the whole amounting to about 26,000 people, while leaving

the country by way of the Khyber Pass, in the depth of winter, were attacked by the fanatical tribes of the districts, who killed men, women and children. Of the whole host only one man escaped to convey the tidings to the nearest British port, Jelalabad. An expedition was immediately fitted out in India, and the country was desolated, the fortresses of Ghurzee and Cabul being taken. Notwithstanding this terrible lesson, the Afghans, in 1846, allied themselves with the Sikhs against the British, and raised a revolt in the Punjaub, which was quelled only after severe fighting. The present Ameer, Shere Ali, has maintained the throne after many vicissitudes caused by the insurrections led by his own relatives. In 1879 the inhabitants of Cabul arose in revolt, and assassinated the British Resident and a large number of other foreigners, which led to a war in which the British arms, after desperate fighting, were successful, and British influence in the national policy was firmly established. The Government of the country is a monarchy. The natives are divided into clans, ruled over by chiefs. Revenue is raised by taxation, an officer collecting it in each province. Justice is administered in the towns by the Cadis.

BELOCCHISTAN, a country lying to the south of Afghanistan, is not considered of strategic value by either British or Russians. In 1839 the British stormed the capital and killed the ruler, after which they occupied the country for several years. In 1854 a treaty was formed between England and Belochistan, which, however, has been violated, and no diplomatic relations are now sustained between the two countries. The country is ruled by a Khan, who, however, has little power over the tribes who inhabit it.







UTHENTIC Persian history begins with the revolt under Cyrus against Astyages, the Median King, which resulted in the foundation of the Persian Empire. Joining with Cambyses and Darius, Cyrus subdued Lydia and Asia Minor, and crowned his

career by the capture of the city of Babylon, the metropolis of Assyria. Darius carried the Persian arms to the bor-

ders of Thrace, but was defeated at Marathon, and his son Xerxes was not less unfortunate. About 330 years before the Christian era Persia was invaded by Alexander the Great, of Macedon, who extinguished the empire, which up to his coming had ruled the world. After Alexander's successors came the Parthian dynasty, which was overthrown in the third century, when the ancient laws and religion were re-established

under a descendant of the famous Cyrus, and the Sassanidæ dynasty thus formed ruled with great energy until 628 A.D., when its last representative was slain, and the country fell a prey to the Mohammedan Arabians until 868, when a native dynasty was established. A Mongol invasion occurred in the thirteenth century, and in the fourteenth Tamerlane swept the land with his Tartar followers. Of the Suffavean dynasty which succeeded, the most famous representative was Nadir Shah, who invaded India and carried away \$100,000,000 worth of spoils from the city of Delhi. Of late years Persia has not been able to do anything worthy of her ancient glories. Rus-

sian encroachments have deprived her of important provinces. In 1856-57 she engaged in war with England and was defeated, which event led to a friendly feeling towards that country which, doubtless, prompted the Shah, Nasr-ed-Din, in 1874, to visit Europe.

The Government of Persia is an unlimited despotism, the Shah being absolute in his monarchial powers. Direct taxation defrays current expenses, and the country is free from national debt. Law, as laid down in the Koran, is administered by mollahs (judges), whose decisions are given in accordance with the side of the case which possesses the greater power to bribe the court.

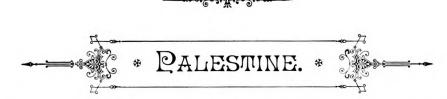




always been and still are a wandering, wild, uncontrolable people, whose career and present condition seem to fulfil the angelic prophecy. The aborigines of Arabia were probably the Cushites, who passed into Africa and were succeeded by a race descended from Abraham. After the destruction of Jerusalem large numbers of Jews entered Arabia, which subsequently welcomed the doctrines of Mohammed, with whose coming the history of the country really begins. Becoming united, they grew in power until in Europe, Asia and Africa empires were brought under their dominion. While producing impor-

AIMING descent from Ishmael, the Arabs have

tant changes in the destinies of other nations, Arabia herself underwent no great improvement, and when her day of conquest was over the Turks found her an easy prey, and in the sixteenth century captured Yemen, which they lost a century later. The Portuguese, too, conquered Muscat, while the Russians gained some temporary advantages in Arabia. In the eighteenth century the Wahabees made their appearance, and, though Mehemet Ali checked their progress, their influence is still felt throughout the land. This powerful Egyptian subdued the seaboard of Hedjaz and part of Yemen, but in 1840 he was forced to withdraw his forces and abandon all his conquests upon the Red Sea.



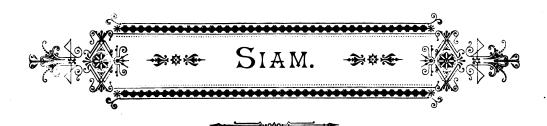
RIGINALLY inhabited by distinct nations, of whom the Canaanites, Amorites, Jebusites, Kenites and Perizites were the principal, and whose origin is not known, the land of Palestine was invaded by the Israelites after their escape from the hands of their Egyptian masters and their wanderings in the wilderness. Acting under the divine command, as interpreted to them by their leaders, they entered upon a merciless war of extermination of the idolatrous tribes who inhabited the land, which they partitioned off as follows: The tribe of Reuben took Gad, and one-half the tribe of Manasseh took the territory east of the Jordan; Judah, Simeon, Dan and Benjamin occupied the southern portion; Zebulon, Asher and Naphtali obtained the

northern division; while the other half of the tribe of Manasseh, together with Issachar and Ephraim, secured the central portion. Being provided for by tithes, the Levites, in their priestly function, were not given any separate territory, but were scattered among the various cities of the other tribes. For over three centuries the tribes were ruled by Judges raised to that dignity by the people for valorous deeds in war or display of qualities of statesmanship, and during this time the nation was practically a confederation of republics, their bond of union being made up of their common origin, language and religion, and the ever-present danger of invasion by external foes. Among the most famous of the fifteen Judges who ruled the land were Gideon, Jephtha, Barak, Samson, Deborah,

Eli, and Samuel, who was the last of the Judges and the first of the Prophets, but the two latter exercised also priestly functions. Although their rule was satisfactory, the people clamored for a King, and the monarchy was established with Saul, a Benjaminite, as ruler. A great warrior, he led the hosts of Israel in a succession of victories, but his merciful treatment of a conquered people brought about the opposition of Samuel. The King's son-in-law, David, having slain the Philistine giant Goliath in battle, became suddenly popular, and, as he was taken up by the priestly party, he first aroused the jealousy and then incurred the enmity of Saul, who caused him to flee from the country. With an army of brother outlaws David made war upon the Philistines, who had befriended him in his hour of need, and on the death of Saul and his son, Jonathan, his tribe of Judah proclaimed him King. Saul's son, Ishbosheth, was acknowledged by the remainder of Israel, and a civil war followed, which was ended by the death of Ishbosheth, and the assumption of the sovereignty by David. Under King David war was actively pursued against the natives. Jerusalem was wrested from the Jebusites, and the Israelitish domain extended south and west to Egypt and north to the land of the Phœnicians. With the last-named people, who had attained a high degree of civilization and were learned in the arts and sciences, the Hebrews remained on terms of friendship. David's successor, Solomon, raised the power of Israel to its pinnacle of glory. Under his rule commerce and trade were cultivated, the country was fortified, profitable foreign alliances were made, and the beautiful Temple of Jerusalem was built. Great attention was paid to the military arm of the government; the army was enlarged and strengthened, and with its aid neighboring nations were kept in subjection and forced to pay heavy tribute. Internal disorder followed the death of Solomon, whose last days were not marked by the wise and strong government which preceded, and under the rule of his son, Rehoboam, the heavy taxation of the people induced a revolt of ten tribes, who proclaimed Jeroboam King in Israel, which comprised the land beyond Jordan and that to the north of Benjamin. Judah and Benjamin alone remained Many wars between the rival nations followed. Under licentious Kings the people of the ten tribes waxed in wickedness, until about 700 years B.C. the Assyrians swept down upon them, destroyed their capital of Samaria and carried the people into captivity. No record of their fate exists. They disappeared entirely from history, though every now and then some one or other of the nations of the earth is recognized, according to Biblical prophecy, as being the identical "ten tribes" of Israel. In Rehoboam's reign Judah was invaded by the Egyptians, who pillaged the temple. Wars with the bordering nations occurred from time to time, and civil war was frequently aroused by the misrule of wicked Kings, whom even the fierce denunciations of the great Prophets could not entirely restrain. Weakened by these causes, the

country came under tributary subjection to the Babylonian Empire, and the downfall of the people was brought about by the revolt of Zedekiah, who declared the nation independent, and defended gallantly but unsuccessfully the capital, Jerusalem, against the Babylonian armies. In 588 B.C. the city was captured, its walls and temple destroyed, and its citizens carried into Babylon, where they remained captive for seventy years. Their return to their native land was permitted when the Babylonians were vanquished by the Medo-Persians, and Darius, Ahasuerus and other Kings allowed them to rebuild their city and temple, and granted them many additional privileges. Under these favorable conditions they increased in strength and numbers, and when, about two centuries before Christ, the Syrians sought to prohibit the Hebrew religion, they arose in arms and fought for their religious liberty with such courage and vigor that the period of these wars, extending from 167 B.C. to 105 B.C., is looked upon as the heroic era of Jewish history. Forty years later, however, the Romans conquered the country, and Judea became a province of that great power. Native rulers, known as tetrarchs, were given slight local power, but they were powerless to check the oppressions of the conquerors, and sixty-six years after the birth of Christ, whose earthly ministry was made while the people were in the depths of misery, the Jews rebelled and brought upon their country a scourge in the shape of Roman armies under Vespasian and Titus. After a four years' siege, during which the inhabitants endured indescribable sufferings with unparalleled fortitude, Jerusalem fell; the temple was once more abased; such of the inhabitants as survived were sold into slavery; the Hebrew nation as such passed out of existence. After the Roman rule passed away the Byzantine monarchs held the country. Christianity becoming widespread, Palestine became a centre of religious interest as the birthplace and scene of the ministry, death and resurrection of the Savior. Thousands of pilgrims visited the "Foly Land," and the rebuilding of Jerusalem was commenced. In the earlier half of the seventh century Palestine was conquered by the Mohammedan Arabs, but in 1099 the warriors of the first Crusade captured the sacred city, and made Godfrey of Bouillon King of Jerusalem, who extended his territory until it comprised the whole of Palestine. This lasted twenty years only, and after further crusades against the Saracens, in which the Christians were more or less successful, the latter were, in 1291, expelled by the Mamelukes, who ruled the land until 1517, when it fell into the hands of the Turks, who still hold it. Several efforts have been made to have the European Jews return to their fatherland, but they have declined to abandon the profitable occupations elsewhere to become the agricultural colonists of a not very fertile land. Under Turkish rule Palestine is part of the province of Syria, and comprises the sub-pashalics of Acre and





ARLY in the seventeenth century the Spanish, Portuguese, Dutch and French obtained admission to the Siamese ports, and England shared their privileges about half a century later. Each of these nations made strenuous endeavors to gain the preponderating over the Siamese, and the French seemed for many years the favorites; but in an outbreak which occurred several of their missionaries and traders were slaughtered, and this event was followed, on the part of Siam, by the inauguration

of a policy of exclusiveness, which lasted until about fifty years ago, when Great Britain, France and the United States made treaties with Siam. A duarchial form of government prevails, there being two Kings, but the second is hardly more than a vice or lieutenant. About the court is the Council of Twelve, and that body, when the King dies, may defeat his will about the succession of the throne. There are laws to which the King must conform, and which render the Government, in effect, a constitutional monarchy.





of Africa, including the islands contiguous to its shores, has an area of 11,854,000 square miles, yet is the least important of all the great divisions of the globe, judged by the standard of civilization and commercial prosperity. It is only within a few years past that the true quality of the interior territory of Southern Africa has become known, through the researches of English and American explorers in the "dark continent." Attempts to colonize were begun by the French, on the west coast, in the seventeenth century, and at the Cape of Good Hope (the southern extremity of the continent, which was first doubled by Vasco da Gama) the Dutch established a port in 1650. An English trading company, a century later, also located The earliest explorers were James Bruce, who in 1772 visited Abyssinia and discovered the sources of the Blue Nile, and Mungo Park, who ascended the Niger in the earlier years of the present century, and was killed in 1806 in the kingdom of Houssa by the natives. The desire to discover the source of the Great Nile has impelled several explorers to pierce Central Africa. Up to his time, the most successful of these was Dr. David Livingstone, who travelled in 1849 through the country watered by the Zambesi, and made a vast number of

ECOND only to Asia in point of size, the continent

important discoveries. Burton, Speke and Baker, in their hunt for the Nile's headwaters, discovered lakes Tanganyika, Victoria Nyanza and Albert Nyanza, which were also visited by Livingstone, who defined the great water system of the Lualaba or Chambeze. Henry M. Stanley, an American journalist, acting in the capacity of special correspondent of the New York Herald, visited Africa on a commission to find Livingstone, who had not been heard from for some years, and in 1871 he discovered him at Ujiji in great destitution, but still anxious to press forward into the continent, for which he had organized a new expedition. In 1873 Livingstone died, and in the following year his body was brought home and interred in Westminster Abbey. Stanley, after parting with Livingstone, explored the Congo River and accomplished discoveries which place him in the front rank of African travellers. Commerce is following fast in the footsteps of these adventurous men, and the colonization of the fertile territories they have visited and described is only a matter of time. Already the English have established colonies at the Cape of Good Hope, Sierra Leone, Natal and on the Gold Coast; Liberia, on the West Coast, has been organized as a republic; the Portuguese have dependencies in Mozambique, Angola and Benguela, while Spain has colonized Fernando Po and Annobon.



GYPT is another of those countries whose prehistoric ages are wrapped in mystery as impenetrable as the sources of her own Nile, whose exact location has baffled the most enterprising of explorers. Great interest attaches to the country's early annals, but

the stories of the dynasties which succeeded Menes, the founder of Memphis, of the rule of the Pharaohs, and the Ptolemies and the Cleopatras, though pregnant with true historical interest, cannot here be told, and it will suffice to quote the language of a graceful historian, who wrote: "It (Egypt) attained a high position for wealth and the institutions of civilized society when all the surrounding countries dwelt in the darkness of barbarism. It had a well organized and efficient government long before the national greatness of the Hebrews." Moslem rule prevailed in the country after their conquest of it in 630. The Caliphs were expelled by the Turcomans, who gave way before the Mamelukes in 1250, whose rule continued until 1517, when Selim, Sultan of Turkey, put an end to their dominion and organized the land as a dependency of Turkey. For over two centuries the descendants of the vanquished Mameluke chieftains opposed the Turks. A descent upon Egypt was made by the French under Napoleon in 1798, but they were obliged to withdraw, and the Mamelukes were not overcome until the treacherous massacre

of their leaders established the Pasha in quiet upon his viceregal throne. Mehemet Ali, from an obscure position as an Egyptian villager, rose to the position of Viceroy, after a severe conflict with the Ottoman forces, and under him the country made great advancement, and, while nominally tributary to Turkey, Egypt enjoyed nearly all the attributes of an independent nation. He died in 1849, and in 1863 Ismail came to the throne, a man of such Oriental extravagance, both in public improvements and personal expenditures, that he became bankrupt, and his abdication was brought about by the combined pressure of his English and French creditors. His son, Mehemet Tewfik, succeeded him, but the actual

> control of the nation was placed in the hands of an International Commission of Liquidation. The burden of paying the interest on the enormous national debt which Ismail rolled up, amounting at the close of 1880 to about \$500,000,000, has rested heavily upon the Egyptian people, and the rebellion against Tewfik, under Arabi Bey, and the war which England waged against the Egyptians, in support of the Khedive, are of too recent occurrence to require more than a passing mention. Of late years the influence of England and France-Egypt's largest creditors-has alternately predominated in the management of Egyptian affairs, but the success of the English arms in the late war, in which the French declined to participate, has made the country virtually a protectorate in the hands of England, whose control of the Suez Canal is a matter of vital importance to that power.

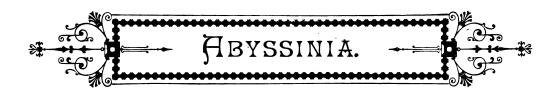


A STREET IN CAIRO, EGYPT.

UPPER AND LOWER

In 1 20 the Egyptian Viceroy Meherret Ali pursued the Mame-

lukes southward and into Nubia, where they took refuge. In the following year he conquered the country and made it an Egyptian province, which it has since remained. Lower Nubia, almost entirely a desert, is retained by the Egyptians as a means of communication with the upper province, which contains a large area of fertile land.





ARLY tradition says that the famous Queen of Sheba included part of this country within her realm, and that its subsequent rulers were descended from her. Fabulous as is the early history of the country, there is no doubt that its people had, even in remote antiquity, made great advancement in civilization. In the middle of the fourth century Christianity was introduced and made great headway. A couple of centuries later the Abyssinians invaded Arabia and conquered a portion of the southwestern province of Yemen. In the tenth century the reigning dynasty was overthrown by a Jewish princess, after which the country remained in anarchy for three centuries, when the restoration of the empire, under Icon Amlac, brought about an improved condition of affairs. In the fifteenth century friendly relations were cultivated with the Portuguese, under the influence of whose missionaries the royal family adopted the Roman Catholic religion. In 1541 the Turks threatened the country, and the Portuguese assisted

the Abyssinians, but were defeated; and in 1542 it was invaded by the Gallas, a race from the south, who conquered and held a great part of it. Although fairly well received at first, the Roman Catholic religion failed to gain a strong hold upon the people, who, in 1632, arose against the priests, and, after killing many of them, expelled the remainder. Theodore, who became King in 1855, proved a sagacious and energetic monarch, and under him Abyssinia was extended over several adjacent provinces, which had for years maintained their independence. A misunderstanding occurring between him and Great Britain in 1860, he imprisoned the British Consul, with some missionaries, and treated them cruelly for some years. In 1868 a British army, under Lord Napier, invaded the country, captured Theodore's stronghold, Magdala, and released the prisoners. Theodore, when the battle turned against him, committed suicide. In 1880 there was an attempt made by the Egyptians to conquer Abyssinia, but they were defeated and abandoned the enterprise.





N 1486 Bartholomeu Dias, a Portuguese navigator, discovered the Cape of Good Hope, which Vasco da Gama sailed round in the following year. About the middle of the seventeenth century the Dutch planted colonies near the Cape, conquering and enslaving the natives. Increasing in numbers and growing in strength, the colonists, in 1795, rebelled against the mother country, whereupon the Prince of Orange sent an English fleet which established British rule. In 1802 the colony was restored to the Dutch, who, by 1806, had extended their domain eastward to the Great Fish River

and westward nearly to the Orange River. In that year the British again took possession of the colony, which they have since retained, though not without great difficulty and expense, the native Kaffirs, a handsome and warlike race, proving a stubborn enemy, in the attempted subjugation of whom several sanguinary wars have been waged. Government at the Cape was established, as it now exists, in 1853, when the authority was vested in a Governor and an Executive Council approved by the Crown, while a Legislative Council of twenty-one members and a House of Assembly represent the people.





ADAGASCAR became known to commerce in the early part of the present century, at which time the greater part of the island was under the rule of King Radama I., with whom England formed a treaty in 1816. From the English

Radama learned the European art of war, and his drilled troops easily accomplished the subjection of the whole island. Dying in 1828, he was succeeded by Ranavala I., who used her power to crush out the Christian religion, which had been readily received by the natives. Europeans were banished from the island and the missionary schools were closed. Her cruelties at last aroused the Europeans to action, and in 1845 a combined En-

glish and French force made an attack upon the port of Tamtave, but were unsuccessful. Ranavala died in 1862 and was succeeded by her son, Radama II., who ceded territory to France. He was assassinated in 1863, and his wife, Rasuaherina, succeeded him. At her death a dispute between the natives and Europeans over the succession was ended by the elevation of Rainitaiarivoy to the throne as Ranavala II. She became a Christian and was baptized, together with her husband, the Prime Minister and several of the native nobility. Kalimalaza, the chief idol, and the temple which contained it, were destroyed, and, stimulated by these acts of devotion, the people rapidly became converted to Christianity.





prises the countries of Algeria, Morocco, Tunis and Tripoli. ALGERIA'S history runs back to the time of Carthage. Moors and Numidians at this time occupied it; later it became a Roman province, and after them the Vandals and Arabians held sway over the land. In the tenth century the Moors organized an independent State, but for several centuries Algeria was nothing else than a nest of pirates, whose vessels swept the seas as far as the North Sea, and forced tribute from all countries which carried on commerce by water. In 1655 the capital, Algiers, was attacked by the English, and in 1682 and 1683 by the French, but no great impression was made. A Spanish expedition against the city in 1775 was signally defeated. In 1815 Commodore Decatur, of the American navy, after defeating an Algerian squadron off Carthagena, threatened to bombard Algiers, and secured the release of American prisoners held by the Dey and his abandonment of a claim he had made for tribute. In 1816 a British Admiral bombarded the city and released all Christians held in bondage. In 1830 France sent an expedition of 100 ships-of-war and 357 transports to Algeria, and July 4 of that year Algiers surrendered, and the French

HE region in North Africa known as Barbary com-

took possession of it and established a military regency. A holy war was declared against the invaders, which, under the Emir Abd-el-Kader was carried on until 1847, when he surrendered to General Lemonciere. The French proclaimed Algeria a permanent possession, but the people were restless under the French yoke, the Kabyles rising in insurrection in 1851 and 1857, and several revolts having occurred since. At present the country is in quiet submission to France, where it is represented in the National Assembly by six Deputies. The military rule was abandoned in 1871, and a civil Governor-General and a Colonial Council administer the affairs of State.

Morocco, not having enjoyed the blessing of occupation by foreigners to any very great extent, does not show the same promise of advancement which Algeria at present affords. Its early history consists of a succession of wars and invasions. In the eighth century the Arabs conquered the country, and since then they have ruled it. In 1471 the seaport of Tangier was captured by the Portuguese, who ceded it to the English in the seventeenth century. They held it for only a brief period, and in 1844 it was bombarded by the French. In 1859 the Spaniards declared war against Morocco and captured Tetuan, these

visitations all resulting from the piratical habits of the maritime Moors and their enslavement of Christians who came within their power. A Sultan rules over the country, but his control over the interior is slight.

In the palmy days of its great commercial city, Carthage, TUNIS was one of the most important countries of the world. Its inhabitants, descendants of the Phœnicians, conquered Sicily, Sardinia, Corsica, and part of Spain, and visited the Scilly Islands and Albion in their trading vessels. Its famous generals, Hamilear, Hannibal and Asdrubal, threatened the Roman power, but the victory of Scipio brought the proud city low, and the country was made a Roman province. Later on the Vandals and Mohammedans overran it, but in the thirteenth century its people obtained their independence. Charles V. of Spain reduced Tunis in the sixteenth century and made it subject to that country, and in 1575 the Turks conquered it. Like the inhabitants of the other Barbary States, the Tunisians practiced piracy and enslaved Christians, which

led them into conflicts with various European powers. Tunis is governed by a Governor or Bey, who receives his investiture from Constantinople, but wields absolute power locally, the country not having paid tribute to the Porte since 1871. The late rulers—Achmet, Mohammed and Mohammed Sadyk—have proved enlightened sovereigns, and under their rule the country has made considerable advancement.

TRIPOLI, the least populous of the Barbary States, became subject to Rome during the Punic wars, fell into the hands of the Vandals in the fifth century, and was conquered by the Turks later. Its capital, Tripoli, was bombarded by the French in 1683, and early in the present century Commodore Decatur punished the inhabitants for injuries their pirates had inflicted upon American commerce. From 1815, the time of Decatur's last visitation, piracy and Christian slavery have not existed in Tripoli. Government is administered by a Bey, who is nominally a vassal of the Porte, but whose rule is absolute and independent of Turkish control. The dominant religion of all the Barbary States is Mohammedanism.





Republics in South Africa





RTLY from national sentiment, but more as a matter of interest, the Dutch settlers at the Cape of Good Hope, after the acquisition of their country by Great Britain in 1806, emigrated in large numbers and, moving north and east, conquered from the warlike Zulus the country which is now known as NATAL, and settled there. More than 10,000 of the Boers, as they were called, had thus wandered away when the British colonists made claim to the territory which they had occupied, and in 1842 took possession of it. Others of the emigrant Boers settled on the table-land region to the north of the Orange River and founded the ORANGE FREE STATE, whose President, in 1848, made an attempt to drive out the British residents, but was defeated and driven from the country. In 1851 the British organized a colony of the Free State, but in 1854 they abandoned the enterprise and permitted the Boers to organize a government and guaranteed them complete independence. A third attempt by the Boers to establish a republic resulted in the colonization of the TRANSVAAL, whose independence was acknowledged in 1852. Success crowned this effort until the year 1877, when, the republic becoming bankrupt, annexation to Great Britain was suggested as a remedy. A vote was taken which resulted in the British taking possession of the country. Many of the resident Boers claimed that only a minority of the inhabitants voted upon the annexation question, and an emigration westward began, which resulted in the settlement of the Great Namaqua land, on the Western Coast north of the Orange River, a movement which was checked by the British,

who claimed that the land was under their jurisdiction. In 1880 the Transvaal Boers, who had had enough of British rule, attempted to re-establish the republic. War ensued and an army which the British sent from Natal to quell the uprising was defeated with great loss. Further engagements with the Boers proved disastrous to the British, who finally abandoned the attempt to crush the republic.

Among the minor countries of Africa is LIBERIA, a negro republic on the grain coast of Upper Guinea. Liberia is the original accomplishment of an association known as the American Colonization Society, of which Henry Clay was President, and whose object was the foundation of a colony of emancipated American slaves. Failure attended the earliest attempt of the society, but, having obtained a suitable location in 1821, operations were commenced which resulted successfully. A town, which was called Monrovia, after the President of the United States then in office, was started, and a lot of land was given to each settler. In 1847 Liberia declared an independent republic, which in the following year was recognized by Great Britain and, later on, by others of the European powers. Although the prime object of the founders of the republic has never been realized, comparatively few emancipated slaves having left America to settle there, Liberia has enjoyed great prosperity and a healthy growth. Contiguous negro tribes have been included within its territories, which now contains a population of about three-quarters of a million. A President, Senate and House of Representatives are charged with the government of the republic.

OCEANICA.

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SIERRE LEONE, a British colonial settlement adjacent to and north of Liberia, was settled in 1787 by a body of several hundred destitute negroes who had been removed from London by a society of philanthropists. Three years later they were joined by over a thousand negroes from Nova Scotia. Although so near to the negro republic founded under American auspices, the latter is far healthier than Sierre Leone, which, perhaps, accounts for its falling far short of the progress accomplished in Liberia.

GUINEA, which includes the coasts of a number of African

territories, was first visited by the French in 1364, and was no colonized until 1481, when a settlement was effected by the Portuguese. A number of colonies have since been established by the English, French, Dutch, Danes and Germans. Guinea abuts upon the territory of the King of Dahomey, whose atrocities, in the way of wholesale destruction of his subjects' lives, have gained him great notoriety. What is known as Lower Guinea, extending along the Western coast of South Africa and comprising the States of Loango, Congo, Ango and Benguela, is claimed by the Portuguese.





CEANICA, sometimes called Oceania, is the name applied to the fifth division of the globe, which comprises the Australian Continent and a majority of the islands lying between the Indian Ocean and the China Sea on the west, and the American Continent

on the east. So vast is the number of these islands that only the historical facts relating to the largest of them can be mentioned. Australia comes under its own head. New Guinea, the next largest island in the world, was discovered by the Portuguese in 1511. Four years later Dutch navigators visited it and raised on its shores a fortress which was subsequently abandoned.

Borneo, which, until the naturalist Wallace's explorations proved that New Guinea had the greater area, was believed to be the largest island in the world except Australia, was discovered in 1578 by the Portuguese. In 1690 they effected a settlement, but were soon driven out from it. In 1702 and 1774 England made unsuccessful attempts to colonize the island, but of late years she has managed to acquire a controlling influence over the northwestern coast of the island.

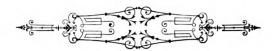
Sumatra, Java, Celebes are among the larger single islands, while among the most important groups are the Malay Archipelago, in which these are included, and almost all of which have been subjugated by the Dutch, the Spaniards, the Portu-

guese and the British; the New Hebrides and Polynesia, which general terms include, among others, the Hawaiian, which is one of the most important in the Pacific Ocean. In 1829 the independence of these islands was acknowledged by the United States, who were followed in 1843 by the British, and in 1844 by the French. King Kalakaua, who has visited the United States and is in many respects a progressive ruler, is the present sovereign of the islands.

New Caledonia, an island lying to the east of Queensland, was taken possession of in 1853 by the French, who established there a naval station and a penal colony, which are still maintained.

New Zealand was first visited by the Dutch navigator Tasman in 1642. A colony was first established in 1840. Gold fields were discovered in 1857 which brought a large immigration. Executive authority is vested in a Governor appointed by the Crown; there is also a General Assembly consisting of a Legislative Council and a House of Representatives.

Tasmania, formerly known as Van Dieman's Land, ceased being a penal colony in 1853, since which time its population and prosperity have largely increased. A Governor appointed by the Crown holds the executive; there are also a Legislative Council and a House of Assembly.







OTHING was known of this vast island until 1605, when a Dutch sea-captain, sent from Java in the yacht Duyfen on a voyage of exploration of the New Guinea coast, viewed its northern shores. A Portuguese navigator the same year passed through Torres

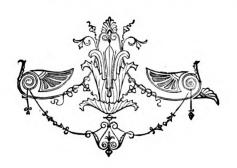
Strait. In 1619 the western coast was seen by a Dutch captain, who gave it the name of Endracht's Land, and in 1622 the southwest coast was discovered. Tasmania was, in 1642, visited by Tasman, who, a month afterwards, visited New Zealand. Frequent new discoveries were made from time to time, and in 1770, Captain Cook, then on his first voyage, explored nearly the whole of the eastern coast, which he called NEW SOUTH WALES. Passing through the strait which bears his name, Dr. Bass, a navy surgeon, ascertained the separation of Australia and Tasmania. In 1788 the English established a penal station at Botany Bay, New South Wales, which was afterwards removed to Sydney. The existence of a convict colony in their midst did not harmonize with the spirit of those who formed a free colony in New South Wales, and the station was removed to Tasmania, where it remained until its abolition, in 1853. Strenuous efforts were made to induce immigration to the colony, but up to 1850 only 50,000 Europeans had settled there. A year later, however, the discovery of gold in a district of New South Wales induced thousands to go to the mines, and within a year the population had increased by 200,000. All ordinary occupations were given up, the gold fever became epidemic, business was abandoned, values were inflated, and when the inevitable crash came, a large amount of suffering occurred. At last the crisis was passed, and, settling down to the development of the country, the people soon found that it had vast natural resources which outweighed in importance even the gold mines in productiveness. A Governor, nominated by the Queen, holds the executive power in New South Wales, and all enactments passed by the lower Legislature require royal sanction before becoming law.

QUEENSLAND, the colony which occupies the northeastern portion of the continent, was established in 1859. It has a Parliament of two houses, the Legislative Council and Legislative Assembly. A Governor appointed by the Queen holds the executive power.

SOUTH AUSTRALIA was first colonized in 1836 by British emigrants, who suffered greatly during the earlier years of their settlement. Copper mines of great richness were discovered in 1843, which gave impetus to the colony. Executive power is vested in a Governor appointed by the Crown, and an Executive Council composed of the responsible Ministers and members especially appointed. Legislative power is vested in a Parliament elected by the people, voting as one district.

VICTORIA was settled in 1835, and in 1840 an attempt was made to form a Government distinct from that of New South Wales, which was unsuccessful. In 1851 the colony became independent, and, the rush to the mines occurring in that year, arrivals at the rate of from twenty to thirty thousand a month began to swell its population. The Government is similar to that of the other colonies.

WESTERN AUSTRALIA was first settled in 1829, and its development was slow for many years. Lately, however, there has been a marked increase of agricultural prosperity. A Governor and a Legislative Council administer and frame the laws.



MAPSOF

States and Territories.

With Comparative Statistics, Area, Population, Railroads, Etc.

ALASKA was purchased from Russia in 1867 for \$7,500,-000, and the United States Government has already regained that sum from the seal fisheries.

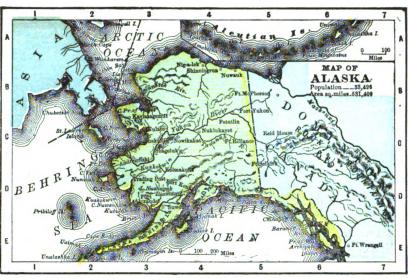
Fishing, canning, trapping and mining are the principal industries.

Population in 1880, 2,000 whites and about 32,000 Indians.

Climate modified by Pacific Gulf stream and long summer days.

The winter temperature at Sitka averages about the same as Washington, D. C.

MAINE (Pine Tree State)-Settled by French at Bristol, 1625; admitted to the Union, 1820. Ranks fifth in buckwheat and copper; eighth in hops and potatoes; eleventh in hay; twenty-first in wealth; twenty-seventh in population; thirty-third in miles of railway; thirtysixth in square miles.



INDUSTRIES.—Extensive lumber and ship-building trade, fisheries, cotton, woolens, tanned and curried leather, boots and shoes, lime, etc. The agricultural portion of the State lies in the valley of St. John and between the Penobscot and Kennebec Rivers.

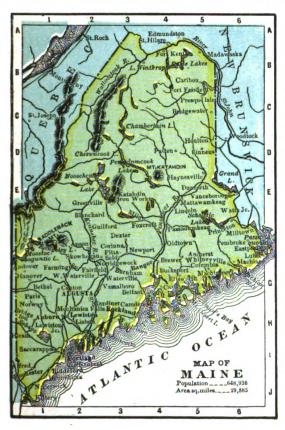
SALARIES OF STATE OFFICERS—Governor, \$2,000; Secretary of State, \$1,200; Treasurer, \$1,600; Attorney General, \$1,000; Adjutant General, \$000; Sup. Common Schools, \$1,000; Sec. Board of Agr., \$600; State Librarian, \$600; Chief Justice, \$3,000; 7 Associated Justices, \$3,000; Senators and Representatives, \$150, mileage 20 cts.; District Judge, \$3,500; Col. Int.Rev., \$2,500; Collector of Customs, \$6,000; Surveyor of Customs, \$4,500; Pension Agent, \$4,000.

NEW HAMPSHIRE (Granite State)—First settlement by the English at Little Harbor, 1623. Ranks third in manufacture of cotton goods; fifteenth in potatoes; twenty-second in wealth; thirty-first in population; thirty-seventh in miles of railway; forty-first in square miles.

INDUSTRIES-Largely engaged in manufacturing; the abundant water power affords great advantages. Agriculture, pasturage and drainage occupy a large number.

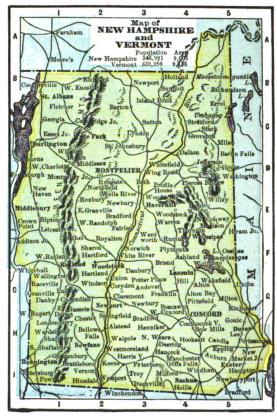
SALARIES OF STATE OFFICERS—Governor, \$1,000; Sec. of State, \$800 and fees; Treasurer, \$1,800; Attorney General, \$2,200; Supt. Pub. Ins., \$2,000; 3 R. R. Commissioners, \$2,000 to \$2,500; Adjutant General, \$1,000; Sec. Bd. Agriculture, \$1,000; Librarian, \$800; Chief Justice, \$2,000; 6 Associated Justices, \$2,700; Senators, Representatives, \$3 a day and mileage; District Judge, \$3,500; Pension Agent, \$4,000; Collector Internal Revenue, \$3,125.

VERMONT (Green Mountain State)—First settled by the English, Ft. Dummer, 1764. Ranks fourth in copper; seventh in hops and buckwheat; twenty-six in wealth; thirty-second in population; fortieth in square miles; forty-first in miles of railway.



INDUSTRIES .-The State is noted for its rich quarries of marble, soapstone and slate, which are worked at several points. It is also noted as a good grazing country. The dairy products are extensive and valuable. Stock raising is carried on to a considerable extent.

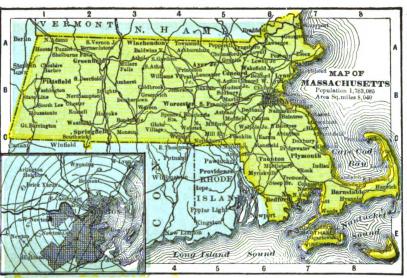
SALARIES OF STATE OFFICERS (Vermont) Governor, \$1,000; Lieut. Gov., \$6 a day; Secretary of State, \$ 1,700; Treasurer,\$1,700; Auditor, \$2,000; Insp. Finances, \$500; R. R. Com., \$500; Adjutant General, \$750; Supt. Public In-Supt. Public Instruction, \$1,400; Chief Justice, \$2,500; G Asso. Justices, \$2,500; Senators, Representatives, \$3 a day; Dist. Judge, \$3,500; Collector of Customs, \$1,000 and fees.



MASSACHUSETTS (Bay State)-First settled by English at Plymouth, Ranks first in cotton, woolen and worsted goods, cod and mackerel fishing; second in commerce; third in manufactories, printing and publishing; fourth in silk goods; fifth in soap and in wealth; sixth in iron and steel: seventh in population; ninth in agricultural implements; twenty-fifth in miles of railway: forty-second in square miles.

MANUFACTURES leather and morocco, bleaching and dyeing, flour and meal, lumber and furniture, molasses and sugar refining, machinery, ship building, animal and vegetable oils, fish industry.

INDUSTRIES .- Manufac



tures and commerce chiefly engage the attention of its inhabitants. The State ranks second in commerce, and third in manufacturing. The middle and western parts are fertile. Farms are highly cultivated. The cod and mackerel fishing is an important industry, the State ranking first in this industry.

Salaries of State Officers.

Governor\$5,000
Lt. Governor 2,000
Sec. of State 3.000
Treasurer 4,000
Auditor 2,500
Attorney Gen 4,000
Chief Justice 6,500
6 Asso. Justices 6,000
District Judge 4.000
Senators and \$650 per Representatives, year.
Representatives, year.
Pension Agent 4,000
3 Col. Int. Rev., \$3,000 to 4,500
Col. of Cus., Boston8,000
Naval Officer 5,000

RHODE ISLAND (Little Rhody)—First settlement by the English, Providence, 1636. Ranks second in cotton, flax and linen goods; twentieth in wealth; thirty-third in population; forty-sixth in square miles; forty-seventh in miles of railway.

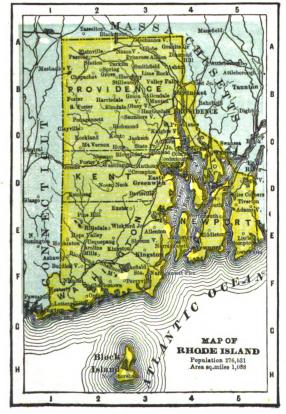
INDUSTRIES—The State is largely engaged in manufacturing, cotton and wooden goods being the largest. It has considerable commerce. Farming is done to some little extent; the chief productions are grains, fruit, butter and cheese.

Salaries of State Officers.

Governor	Commissioner of Public Schools
Lieutenant Governor 500	Chief Justice. 4,500
Secretary of State 2,500	4 Associated Justices 4,000
General Treasurer 2,500	Senators and Representatives
State Auditor Insurance Commissioner	District Judge \$3,500
Railroad Commissioner 500	Appraiser of Customs 3,000
Attorney General 2,500	Clerk
Adjutant General 600	3 Collectors Fees

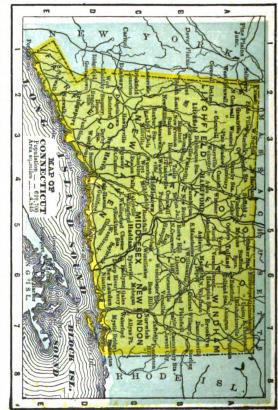
CONNECTICUT (Nutmeg State)—First settlement by the English, at Windsor, 1635. Ranks first in clocks; third in silk goods; fourth in cotton goods; eighth in tobacco; fourteenth in wealth; twenty-third in population; thirty-ninth in miles of railway; forty-fourth in square miles.

MANUFACTURES cotton and woolen goods, hardware, worsted, bleaching and dyeing, jewelry, plated ware, leather goods.



INDUSTRIES.—Agriculture and manufacturing are carried on to a consider able extent by its inhabitants. Sever al extensive granite and freestone quarries are successfully worked, as are also mines of silver, lead, copper and iron. Many of the towns have an extensive coasting trade and foreign commerce with the West Indies.

SALARIES OF STATE OF FICE RS.—Governor, \$4,000; Lt. Governor, \$500; Sec'y of State, \$1,500; Treasurer, \$1,500; Treasurer, \$1,500; Sec. State Bd. of Educat'n, \$3,000; Adjutant Gen., \$1,200; Ins. Com., \$3,000; Chief Justice, \$4,500; A Sso. Justices, \$4,000; Senators, Representatives, \$300 and mileage; Dist. Judge, \$3,500; 2 Col. Int. Rev., \$3,000; 13 Deputy Collectors, \$800 to \$1,775; Stmpd. En. Agent, \$2,500.



NEW YORK (Empire State) -First settlement by the Dutch at New York (New Amsterdam), 1614. Ranks first in value of manufactories, population, soap, printing and publishing, hops, hay, potatoes, buckwheat, milch cows, and wealth; second in salt, silk goods, malt and distilled liquors, and barley; third in agricultural implements, iron ore, iron and steel, oats and rye; fourth in wool and miles of railway; twentyseventh in square miles.

INDUSTRIES.—In population, wealth and commerce New York is the first in the Union. The commerce extends to all parts of the world. Manufacturing is large, and constantly increasing. Agriculture is one of the chief pursuits, wheat

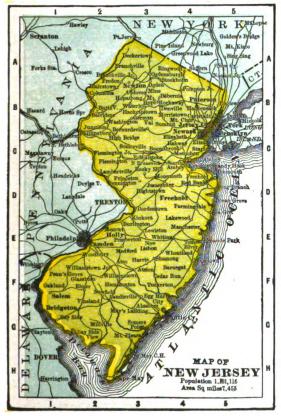


and corn being the staple productions. The development of the salt springs of the interior is also one of the industries of the State. It s magnificent system of canals and railroads has done much to increase its domestic trade.

SALARIES OF STATE OF-FICERS—Governor, \$10,000 and house; Lieut. Governor, \$5,000; Secretary of State, \$5,000; Treasurer, \$5,000; Comptroller, \$6,000; Attorney General, \$5,000; Chief Justice, \$7,500; Senators and Representatives, \$1,500 and 10 cents mileage; 3 District Judges, \$4,000; Pension Ag*t, \$4,000; Postage Stamp Ag*t, \$2,500; Division Superintendent Railway Service, \$2,500; 12 Collectors Internal Revenue, \$2,750 to \$4,000; Collector Customs New York, \$12,000; Superintendent Assay O., \$4,000.

NEW JERSEY (Jersey Blue)—First settlement by the Dutch at Bergen, 1620. Ranks first in fertilizing marl, zinc, and silk goods; fourth in iron ore; fifth in iron and steel; sixth in buckwheat, manufactories, and soap; seventh in rye; twelfth in wealth; nineteenth in population; twenty-sixth in miles of railway; forty-third in square miles. Manufactures: molasses and sugar refining, flour, machinery, leather and leather goods, hats, caps and clothing, woolen and cotton goods, bleaching and dyeing, glass. Industries: The commerce of the State is small, its manufactures large and various. Its shad and oyster fisheries are extensive. Mining is also a leading industry. But its chief industry is agriculture and market gardening, the State being one immense garden, the mildness of its climate being such that small fruits are very productive, and being adjacent to the markets of New York and Philadelphia, farmers and fruit raisers find large profits from their labor. Salaries of State officers: Governor, \$5,000; Secty of State, \$6,000; Treasurer, \$4,000; Comptroller, \$4,000; Atty. Gen., \$7,000; Supt. Pub. Inst., \$3,000; Adjutant Gen., \$1,200; Librarian, \$1,500; Chief Justice, \$7,500; 8 Asso. Justices, \$7,000; Chancellor, \$10,000; Senators and Representatives, \$500 a year; District Judge, \$3,500; Superintendent Life Saving Service, \$1,500; 39 Keepers, \$700.

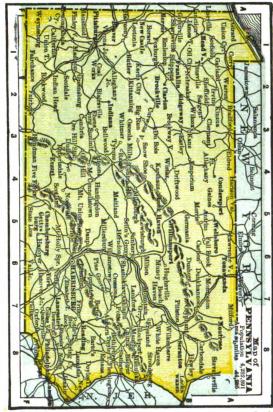
PENNSYLVANIA (Keystone State)—First settlement, English, Philadelphia, 1682. Ranks first in rye, iron and steel, petroleum and coal; second in wealth, population, manufactories, buckwheat, potatoes, printing and publishing; third in miles of railway, milch cows, hay, soap; fourth in oats and tobacco; fifth in silk goods, wool, malt and distilled liquors; sixth in salt, copper, and agricultural implements; eighth in horses and sheep; thirtieth in square miles. Industries: Pennsylvania ranks next to New York in wealth, population and manufactures. The people are largely engaged in agriculture, mining and



manufactures; wheat, corn, orchard fruits, potatoes, butter and wool are the chief products. The farms are generally large and well conducted. The manufactories are very extensive, and comprise a great variety of articles; iron, cotton and woolen goods being the leading articles. In the production of coal and iron Pennsylvania surpasses all other States.

SALARIES OF

SALARIES OF STATE OFFICERS—Governor \$10,000; Lieut. Gov., \$3,000; Secretary of State, \$4,000; Treasurer, \$5,000; Auditor General, \$3,000; Attorney General, \$3,500; Chief Justice, \$8,500; 6 Associate Justices, \$8,000; Senat'rs and Representatives, \$1,000 for 100 days, \$10 per day, mileage 5 cents; 2 District Judges, \$4,000; 2 Pension Agents, \$4,000; 10 Collectors Internal Revenue, \$2,375 to \$4,500; Collector Customs Philadelphia, \$8,000.



DELAWARE (Blue Hen State)-First settlement by Swedes at Cape Henlopen. 1627. Ranks twenty-first in orchard products: thirtythird in wealth; thirtyseventh in population; fortyfifth in square miles; fortysixth in miles of railway. INDUSTRIES—The principal pursuits are agriculture and mining. Fruit grows in great abundance. Considerable manufacturing is done in the northern part of the State

State.
SALARIES OF STATE OFFI-SALARIES OF STATE OFFICERS—GOV., \$2,200; Sec'y of State, \$1,000; Treasurer, \$1,-450; Auditor, \$700; Adjutant General, \$200; Atty. Gen., \$2,000; Supt. Public Ins., \$1,-500; State Librarian, \$450; Chief Justice, \$2,500; Chancellor, \$2,500; 3 Asso. Justices, \$2,200; Senators and Representatives, \$3 per day and mileage; District Ji dge, \$3,500; District Attorney, \$200 and fees; Collector of Internal Revenue, \$2,875.



MARYLAND.—First settlement by the English, 1634. at St. Mary. Ranks second in fisheries; fourth in coal; seventh in tobacco; eighth in copper; ninth in iron ore; thirteenth in wealth; twenty-third in population; thirty-

in copper; ninth in fron ore; thirteenth in wealth; twenty-third in population; thirty-first in miles of railway; thirty-ninth in square miles.

MANUFACTURES: Flour and meal, copper smelting, sugar and molasses refining, cotton goods, lumber and furniture, malt and distilled liquors, tobacco and cigars, canned oysters, fish and vegetables, leather goods, clothing, printing and publishing.

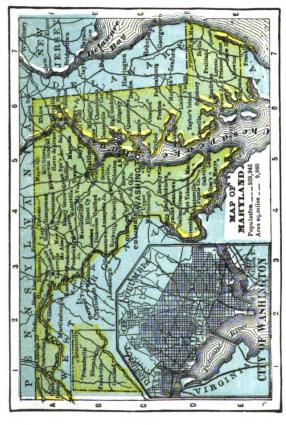
INDUSTRIES.—The chief industry is agriculture; corn, wheat and tobacco being the leading products. Besides these, large quantities of other cereals are produced. Manufacturing is large. Mining of coal is extensive. The foreign commerce of the State is carried on chiefly through the city of Baltimore, which has all the advantages of a seaport. The chief exports are tobacco, flour, canned fruits and oysters.

Salaries of State Officers—Governor, \$4,500; Secretary of State, \$2,000; Treasurer, \$2,500; Comptwoller, \$2,500; Attorney General, \$3,000; Chief Justice, \$3,500; 7 Associate Justices, \$3,500; District Judge, \$4,000; Senators and Representatives, \$5 per day and mileage; 2 Collectors Internal Revenue, \$2,625 to \$4,500; Collectors of Customs, \$7,000; 2 Collectors, \$250 to \$1,200 and fees; Auditor, \$2,500; Naval Officer, \$5,000; Surveyor, \$4,500.

VIRGINIA (Old Dominion)—First settlers, English, Jamestown, 1607. Ranks first in peanuts; second in tobacco; eighth in salt and iron ore, fourteenth in population; sixteenth in wealth; eighteenth in miles of railway; thirty-first in square miles. Industries: Agriculture is the leading industry; tobacco, wheat, corn and potatoes being the great staples. The mineral resources are vast; the mountains containing rich deposits of coal and iron, valuable marble, slate and stone quarries, with important salt springs. The leading manufactures are prepared tobacco and flour. The unlimited water power with rich mineral deposits must sooner or later make Virginia a great manufacturing State.

SALARIES OF STATE OFFICERS—Governor, \$5,000; Lieutenant Governor, \$000; Secretary of State, \$2,000; Treasurer, \$2,000; Auditor, \$3,000; Sec. Auditor, 2,000; Attorney General, \$2,500; Superintendent Public Instruction, \$2,500; Adjutant General, \$600; Commissioner of Agriculture, \$1,500; Superintendent Public Instruction, \$2,500; Adjutant General, \$600; Commissioner of Agriculture, \$1,500; Superintendent Public Instruction, \$2,500; Adjutant General, \$600; Commissioner of Agriculture, \$1,500; Superintendent Public Instruction, \$2,500; 2 District Judges, \$3,500; Senators and Representatives, \$5400 year; 5 Collectors Internal Revenue, \$3,000 to \$4,500.

WEST VIRGINIA (Pan Handle State)—First settlers English, Wheeling, 1774. Admitted to Union, 1863. F wheat, iron and steel; twenty-ninth in population; thirty-fourth in miles of railway; thirty-eighth in square miles. Ranks fifth in salt and coal; eighth in buck-



INDUSTRIES Agriculture is the leading industry, the principal staples being tobacco, wheat and corn. The mountain pastures are well adapted to stock raising. Its mineral resources are rich deposits of coal, iron and numerous oil wells and salt springs.

SALARIES OF STATE OFFICERS -Governor, \$2,-700; Secretary of State, \$1,000 and fees; Treasurer, \$1,400; Auditor, \$ 2,000 and fees; Superintendent of Free Schools, \$1,-500; Atty. Gen., \$1,000; Presiding Judge Supreme Court, \$2,250; Associate Judges, \$2,250; Senators and Representatives, \$4 per day, mileage 10 cents: District Judge, \$3,500; 2 Collecters Inter. Rev., \$2,875.



NORTH CAROLINA (Old North State)—First settlers, English, Cowan river, 1650. Ranks first in tar and turpentine; second in copper; third in peanuts and tobacco; fourth in rice; ninth in cotton; fifteenth in population; twentieth in miles of rail-way; twenty-third in wealth; twenty-sixth in square miles.

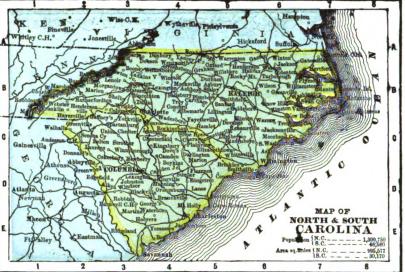
twenty-sixth in square miles.

INDUSTRIES—Agriculture is the leading industry, the chief articles being corn, wheat, tobacco, sweet potatoes, oats, rice and cotton. Vast forests furnish three times as much pitch, tar and resin as all the other States together. Valuable gold mines are extensive; wrought iron, copper and coal also abound.

SALARIES OF STATE

coal also abound.

SALARIES OF STATE
OFFICE R. S—Governor, \$3,coo; Secretary of State, \$2,coo; Treasurer, \$3,000; Auditor, \$1,500; Attorney General, \$2,000; Superintendent
Public Instruction, \$1,500;
Adjutant Gen., \$600; Commissioner of Agriculture,
\$1,200; State Librarian, \$750;
Chief Justice, \$2,500; 2 Asso-



ciate Justices, \$2,500; Senators and Representatives, \$4 per day, mileage 10 cents; 4 Collectors Internal Revenue, \$2,500 to \$3,700; 64 Deputy Collectors, \$300 to \$1,700.

SOUTH CAROLINA (Palmetto State)—First settlers, English, Ashley river, 1670; Ranks first in phosphates and rice; fifth in cotton; twenty-eighth in miles of railway; thirtieth in wealth; thirty-seventh in square miles. miles.

miles.

INDUSTRIES — Agriculture is the principal industry, the State producing a larger amount of rice than any other State. "Sea Island Cotton" is of the finest quality, and superior to all other, and is raised on several islands along the coast of this State and Georgia. "Corn, oats, wheat, sweet potatoes and tobacco are extensively raised. The export of rice and cotton is large. But few manufactures are as yet established in the State, though considerable attention is being given to them.

SALARIES OF STATE OFFICERS—Governor, \$3,500; Lieut. Governor, \$1,000; Secretary of State, \$2,100; Treasurer, \$2,100; Comptroller General, \$2,100; Attorney General, \$2,100; Superintendent Public Instruction, \$2,100; Commissioner of Agriculture, \$2,100; Adjutant and Inspector General, \$1,500; Chief Justice, \$4,000; Associate Justices, \$3,500; Clerk of Supreme Court, \$1,000; Senators and Representatives, \$5 per day, mileage 10 cents; District Judge, \$3,500; Collector of Internal Revenue, \$3,250.

GEORGIA (Empire State of South)—First settlement, by the English, Savannah, 1733. Ranks second in rice and sweet potatoes; third in cotton and molasses; fourth in sugar; seventh in mules; tenth in hogs, thirteenth in population; fifteenth in miles of railway; nineteenth in square miles; twenty-fifth in

molasses; fourth in sugar; seventh in mules; tenth in hogs, thirteenth in population; internal in lines of fairway, indecember of squares, wealth.

INDUSTRIES—The leading industry is agriculture, the products being corn, rice, cotton and sweet potatoes, and manufacturing, in which it leads all other Southern States, having fine facilities. Gold, iron, marble and slate abound.

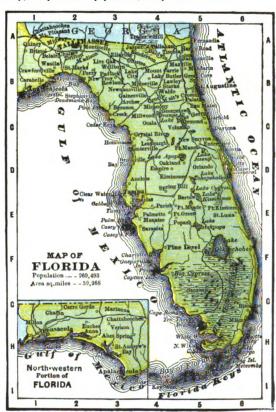
SALARIES OF STATE OFFICERS—Governor, \$3,000; Secretary of State, \$2,000; Treasurer, \$2,000; Comptroller General, \$2,000; Attorney General, \$2,000; Commissioner of Agriculture, \$2,500; Chief Justice, \$2,500; Associate Justices, \$2,500; Senators and Representatives, \$4 per day and mileage; 3 District Judges, \$3,500; Div. Supt. Railway Service, \$3,500; Collectors Internal Revenue, \$2,500 to \$3,125; 44 Deputy Collectors, \$300 to \$1,700; Customs Surveyor, \$1,000 and fees.

FLORIDA (Peninsula State)—First settlement, by the Spaniards, at St. Augustine, 1565. Admitted to the Union, 1845. Ranks third in sugar and molasses; sixth in rice; tenth in cotton; twenty-first in square miles; twenty-seventh in miles of railway; thirty-fourth in population; thirty-sixth in wealth.



INDUSTRIES-The inhabitants confine themselves to agriculture. The chief products are cotton, sugar cane, rice, corn and sweet potatoes, and tropical fruits of great variety. There is considerable trade also in lumber.

SALARIES OF STATE OFFICERS -Gov'nor, \$3,500; Lieutenant Governor, \$500; Secretary of State, \$2,000; Treasurer, \$2,000; Comptroller, \$2,000; Attorney General, \$2,-000; Superintendent Pub. Instruction, \$2,000; Adjutant General, \$2,tant General, \$2,-000; Land Commissioner, \$1,200; Chief Justice, \$3,-500; 2 Asso. Just's \$3,000; Senators and Representatives, \$6 per day and 10 cents mileage; 2 District Judges, \$3,500; Collector Internal Revenue. \$3,000; Revenue, \$3,000; Surveyor Gen'ral, \$1,800; Chief C'k.,

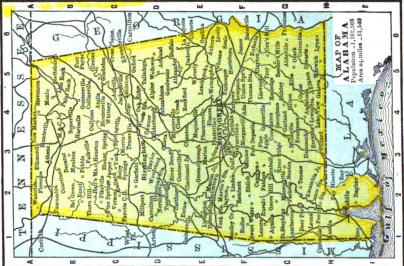


ALABAMA—First settlement, by the French, at Mobile, 1711. Admitted to the Union, 1810. Ranks fourth in cotton, fifth in mules and molasses, sixth in sugar, seventh in rice and iron ore, tenth in bituminous coal, seventeenth in population, nineteenth in miles of rail-way, twenty-sixth in square miles and twenty-eighth in wealth.

wealth.
INDUSTRIES—The commerce of the State is considerable, its manufacturing in-terests are increasing rapid-ly, chiefly cotton and cotton goods, yarn, thread, iron, leather and lumber. Its min-ing interests are very con-siderable; but the principal industry is agriculture, cot-ton and corn being the lead-ing productions; of the r

ton and corn being the leading productions; of the r grains, sugar cane, rice and tobacco are also produced.

SALARIES OF STATE OFFICERS—GOVETHOR, \$3,000; Sec. State, \$1,800; Treasurer, \$2,150; Auditor, \$1,800; Attor'y Gen., \$1,500; Supt. Pub. Ins. \$2,250; Librarian, \$1,500; 3 R. R. Com'rs, \$2,000 to \$3,2500; Chief Justice, \$3,000; 2 500; Chief Justice, \$3,000;



Asso. Justices, \$3,000; Senators and Representatives, \$4 per day and 20 cents mileage; 3 Dist. Judges, \$3,500; 2 Collectors Internal Revenue, \$2,500; 16 Collectors Internal Revenue, \$1,000 to \$1,400.

MISSISSIPPI (Bayou State)—First settlement, by the French, at Natchez, 1716. Admitted to the Union, 1817. Ranks second incotton, fifth in rice, sixth in mules and molasses, seventh in sugar, eighteenth in population, twenty-fourth in miles of railway and twenty-ninth in square miles and wealth.

INDUSTRIES — Mississippi is almost exclusively an agricultural State. Great quantities of rice, corn and sugar and sweet potatoes are produced. Many tropical fruits grow in abundance. The labor is largely performed by colored persons. Horses, mules, swine and cattle are extensively raised.

SALARIES OF STATE OFFICERS—Governor, \$4,000; Lt. Governor, \$500; Sec'y State,

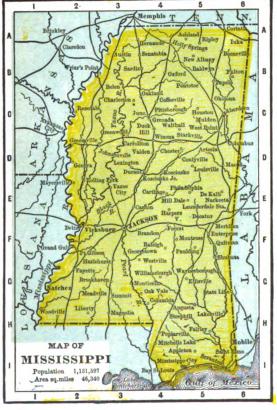
SALARIES OF STATE OFFI-CERS—Governor, \$4,000; Lt. Governor, \$800; Sec'y State, \$2,500; Treasurer, \$2,500; Au-ditor, \$2,500; Attorney Gen-eral, \$2,500; Supt. Pub. Edu-

cation, \$2,000; Commissioner Agriculture, \$1,000; Land Commissioner, \$1,000; Adjutant General, \$500; Librarian, \$800; Chief Justice, \$3,500; 2 Associate Justices, \$3,500; Senators and Representatives, \$400 a year; 2 District Judges, \$3,500; Collector Internal Revenue, \$2,750.

*\$3,500; Senators and Representatives, \$400 a year; 2 District Judges, \$3,500; Confector Internal Revenue, \$2,750.

***ENTUCKY** (Corn Cracker State)—First settled by English, Boonesboro, 1775. Admitted to Union, 1702. Ranks first in tobacco, fourth in malt and distilled liquors, sixth in hogs, seventh in corn, eighth in rye, coal, mules and population, fifteenth in wealth, twenty-third in miles of railway and thirty-fourth in square miles. Industries: Agriculture is the main pursuit. Wheat, corn, hemp, flax and tobacco are the staple productions. Fruits of an excellent quality abound. Horses and cattle are reared in great numbers. Thousands of swine fatten in the woods. Mining is carried on to a large extent. Manufactures and commerce receive much attention. Kentucky produces nearly one-half the tobacco raised in the United States. Salaries of State officers: Governor, \$5,000; Secretary of State, \$1,500; Treasurer, \$2,400; Auditor, \$2,500; Attorney General, \$500 and fees; Register Land Office, \$2,400; Commissioner of Agriculture, \$2,000; Insurance Commissioner, \$4,000; 3 Railroad Commissioners, \$2,000; (inef Justice, \$5,000; 3 Associate Justices, \$5,000; Senators and Representatives, \$5 per day and 15 cents mileage; District Judge, \$3,500; Pension Agent, \$4,000; 6 Collectors Internal Revenue, \$4,500; 60 Deputy Collectors, \$300 to \$2,000.

TENNESSEE (Big Bend State)—First settlers, English, Fort London, 1757. Admitted to Union, 1766. Ranks second in peanuts, third in mules, sixth in tobacco, seventh in copper and hogs, ninth in corn, twelfth in population, eighteenth in wealth, twenty-first in miles of railway and thirty-second in square miles. Industries: Agriculture is the most important industry, the great staples being wheat, cotton, corn, hemp and tobacco. In the production of tobacco the State ranks third. The iron and coal interests are growing rapidly, and will in time prove one of its richest resources. The marbles of the State are



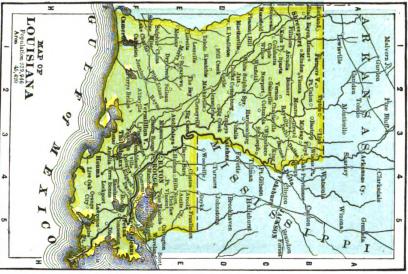
esteemed for their color and variety. Immense numbers of swine and mules are raised in the State. The manufacturing industries are m ore developed than in any of the Southern central States. A large internal commerce is carried on through the railroads and rivers of the State.

SALARIES OF STATE OFFICERS Governor, \$4,000; Secretary State, -Governor, \$4,000; Secretary State, \$1,800 and fees; Treasurer, \$2,750; Comptroller, \$2,-750; Att'y Gen'l, \$3,000; Superin-tendent Public tendent Public
Instructi'n, \$1,800;
Adjutant Gen'l,
\$1,200; Commis'er
Agricultu re, \$3,
000; 3 Railroad
Commission er s,
\$2,000; Librarian,
\$1,000; Chief Justice, \$4,000; Senators and Representatives, \$4 per
day and 16 cents a
mile; 3 District
Judges, \$3,500;
Pension Agent,
\$4,000; 3 Collectors Internal Revenue, \$2,250 to \$4, enue, \$2,250 to \$4,-375.



LOUISIANA (Creole State)
-First settlement, by the
French, at Iberville, 1699.
Admitted to the Union, 1812.
Ranks first in sugar and molasses; third in rice; ninth in
salt; twenty-second in population; twenty-seventh in
wealth; twenty-eighth in
square miles; twenty-ninth
in miles of railway.

INDUSTRIES—Holding, as it does, the outlet to the Mississippi Valley, the State is able to control both the foreign and domestic trade of this large and rich section, hence commerce is large and important. The manufacturing interests are comparatively small, except in sugars and molasses. Agriculture is the chief pursuit. This State is the only part of our country producing sugar in large quantities. Cotton is



largely cultivated, Louisiana ranking fourth in its production. The rice crop is also large. Indian corn and other cereals are also produced to a considerable extent. The tropical fruits are abundant.

Salaries of State Officers.

Governor
Lieut. Governor \$8 per day
Treasurer\$2,000
Sec'y of State 1,800
Auditor 2,500
Attorney General 3,000
Adjutant General 2,000
Supt. Pub. Ins 2,000
Com. Ag. and Immig. 2,000
Chief Justice 5,000
Associate Justices 5,000
Senators and Represen-

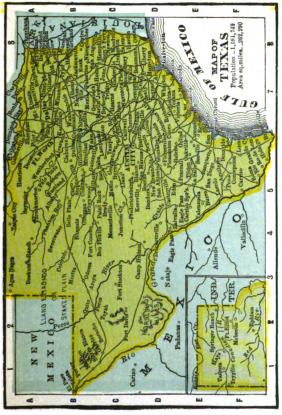
tatives, \$4 per day & mil'ge 2 Dist. Judges, \$3,500 to \$4,500 Col. of Customs New

Orleans..... 7,000

TEXAS (Lone Star State)—First settlement, by the Spaniards, at San Antonio, 1692. Admitted to the Union, 1845. Ranks first in cattle and cotton and square miles; second in sugar, sheep, mules and horses; sixth in miles of railway; seventh in milch cows; eighth in rice and hogs; eleventh in population; nineteenth in wealth. Industries: Stock raising is the leading industry, Texas ranking first in this production. Agriculture extensively engages the attention of its inhabitants; corn, wheat and the other cereals are raised in the northern part; sweet potatoes, sugar cane, tobacco and tropical fruits in the southern part. Its commerce consists of exports of cotton, hides and live stock. The State has vast resources that have not, as yet, been fully developed; an abundance of most valuable timber, large deposits of coal, iron and salt, and other useful minerals.

Salaries	of	State	Off	ficers.

Governor \$4,000	Railroad Commissioner \$3,000
Lieutenant Governor	Chief Justice
Secretary of State 2,000	2 Associate Justices. 3.500
Treasurer 2,500	Senators and Representatives
Attorney General 2,000	3 District Judges 3,500
Adjutant General 2.000	Collectors Internal Revenue \$2,500 to 2,750
Land Commissioner 2,500	17 Deputy Collectors \$300 to 1.850
ARKANSAS (Bear State)—First settlement, by the French, at Arkansas	Post, 1685. Admitted to the Union in 1836. Ranks fifth in cotton, ninth in



mules, twentysecond in miles of railway," twentyfifth in population and in square miles, thirty-first in wealth.

INDUSTRIES—
The mineral resources of the estate are very large, and receiving much attention. Stock raising is extensive. Agriculture is the chief industry; corn, cotton and wheat being the leading productions. Oats, tobacco, sweet potatoes and fine fruits are also produced to a considerable extent.

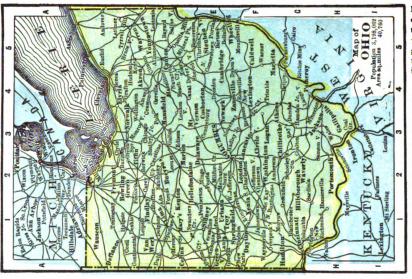
SALARIES OF STATE OFFICERS—Gover'or \$3,500: Sec. State, \$1,800; Treasurer, \$2,250; Auditor, \$2,250; Aut'y Gen. \$1,500; Sup. Public Inst., \$1,600; La'd Com., \$1,800; Chief Jus., \$3,000; 2 Associate Justices, \$3,000; Senat'rs and Representatives, \$6 a d a y; 2 District Ludges, \$3,500; District Attorney, \$200 and fees; 2 Asst. District Attorneys, \$1,200, \$1,000; Collector Internal Rev'nue, \$2,750; 10 Deputy Collectors, \$1,200 to \$1,500.



OHIO (Buckeye State)—First settled, by the English, at Marietta, 1788. Admitted to Union, 1803. Ranks first in agricultural implements and wool, second in petroleum, iron and steel, third in population, wheat, sheep, coal, malt and distilled liquors, fourth in printing and publishing, salt, soap and wealth, fifth in milch cows, hogs, horses, hay, tobacco, iron ore and miles of railway, thirty-third in square miles.

INDUSTRIES—The agricul-

INDUSTRIES—The agricultural interest is very large. Great crops of wheat, corn, oats, barley, hay, potatoes, garden and orchard products are raised; also flax, tobacco and grapes. Coal and iron mining are extensively carried on in the eastern and southern parts, and large numbers of live stock are sent to the Eastern markets. It is the foremost State in sheep raising, the wool production being more than 20,000,000 pounds a year. In manufacturing it ranks as the fourth State in the Union.



Its commerce by lake, river, canal and railroad transportation is very large. In wealth, population and progressiveness the State takes front rank, being the third in population.

salaries of State ome	cers.
Governor	4.000
Sec'y of State	
Treasurer	3,000
A 11.	

 Treasurer.
 3,000

 Auditor.
 3,000

 Attorney Gen.
 2,000

 School Com.
 2,000

 Supt. Ins. Dep't.
 1,800

 Railroad Com.
 2,000

 Sec'y Board Agr.
 1,800

 Com. Lab. Statistics.
 2,000

 Chief Justice.
 3,500

 Senators and Repre's,

\$600 a year and 12c, a mile 2 District Judges, \$3,500 4,000 Pension Agent...... 4,000 8 Col. In. Rev. \$2,500 to 4,500

INDIANA (Hoosier State) First settlement, by the French, Vincennes, 1730. Admitted to the Union, 1816. Ranks second in wheat, fourth in corn, hogs and agricultural implements, sixth in coal and population, seventh in horses, oxen and other cattle, malt and distilled liquors and wealth, eighth in miles of railway, ninth in hay and milds cows, thirty-fith in square miles. Industries: The inhabitants are largely engaged in agriculture; large quantities of corn, wheat, oats, pork and beef being exported. Its mining and manufacturing are considerable, and constantly increasing.

Salaries of State Officers.

	balance of blace officers.	
Governor\$5,000	Attorney General \$2,500	Senators and Repres'tatives, \$6 a day, 20c. a mile
	Superintendent Public Instruction 2,500	District Judge
Secretary of State	Sec'y Board of Agriculture	Pension Agent
Treasurer 3,000	Librarian	6 Collectors Internal Revenue \$2,375 to 4,500
Auditor	5 Judges 4,000	Surveyor of Customs
TITINATO (Parinia and Control Control Pilot and I	1 1 d T 1 T 1 II CO Al turbert.	TI : OO D 1 C

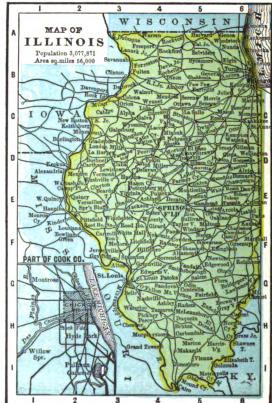
ILLINOIS (Prairie or Sucker State)—First settled, by the French, Kaskaskia, 1682. Admitted to the Union, 1818. Ranks first in corn, wheat, oats, meat packing, lumber traffic, malt and distilled liquors and miles of railroad; second in rye, coal, agricultural implements, soap and hogs; third in wealth, fourth in population, manufactories, hay, potatoes, iron and steel, mules, milch cows and other cattle; twenty-second in square miles.

INDUSTRIES—Illinois is in the front rank as an agricultural State, surpassing all others in the production of wheat and corn, and second to none in the



extent of stock raising. It ranks the fourth in population, and next to Missouri in manufacturing, and the sixth in the Union. Its fruit and orchard products are very large. The State abounds in mineral productions, coal, lead and salt being the chief. Its great rivers and lakes present natural facilities for an extensive commerce. The railroads of the State are greater in the number of miles within the State than any other.

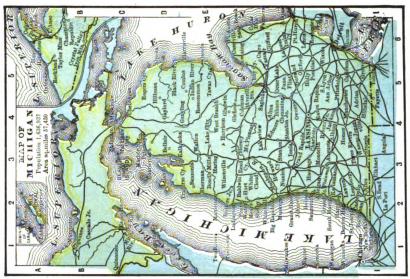
SALARIES OF STATE OFFICERS -GOVERNOR, \$6,000; Sec. State, \$3,500; Auditor, \$3,500; Auditor, \$3,500; Auditor, \$3,500; Sen'tors and Representatives, \$5 a day, mileage 10c. and \$50; 2 District Judges, \$3,500 to \$4,000; Pension Agent, \$4,000; Pension Agent, \$4,000; Collector of Customs, \$7,000; Auditor, \$2,200; Appraiser, \$3,000; Examiner, \$2,000.



MICHIGAN (Wolverine State)-First settled, by the French, at Detroit, 1650. Admitted to the Union, 1837. Ranks first in copper, lumber and salt, second in iron ore, third in buckwheat and wool, fifth in hops and potatoes, sixth in wheat, barley and wealth, seventh in agricultural implements, ninth in oats, population and miles of railway and twentieth in square miles.

square miles.

INDUSTRIES—Agriculture, mining, lumbering, manufacturing and commerce command the attention of the inhabitants. Large crops of wheat, corn, oats and potatoes are produced, as also great quantities of wool, butter and cheese. Fruit raising is extensively followed, the value of the orchard products exceeds that of New Jersey or California. The copper mines of the State are the richest known and are extensively worked.



The production of sawed lumber is greater than that of any other State. The value of manufacturing exceeds \$100,000,000. The fisheries form one of the secondary, yet important sources of wealth, large quantities being taken for home use and export.

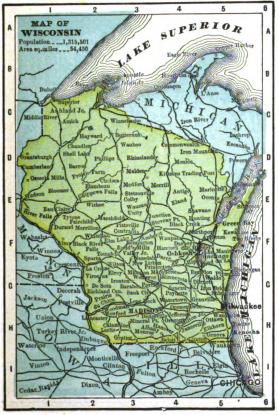
Salaries of State Officers.

Governor	,000
Lieut. Gov\$3 a	day
Sec'y of State\$	800
Treasurer	1,000
Auditor Gen	2.000
Supt. Pub. Inst'n	L.000
Adjutant Gen	1.000
Sec'y Board Agr	1.500
Insurance Com	2.000
Railroad Com	2.500
Immigration Com	
Chief Justice	1,000
Senators and Repre-	2,000
sen's, \$3 a day, 10c. a	mile
2 District Judges \$	3 500
Pension Agent	1,000

Col. In. Rev. \$3,875 to 2,625

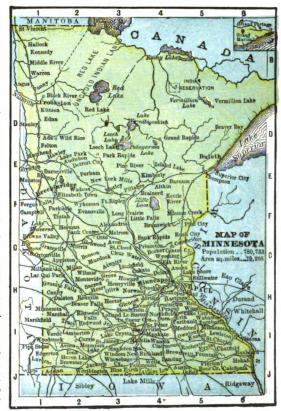
wisconsin (Badger State)—First settlement, by the French, Green Bay, 1660. Admitted to the Union, 1848. Ranks second in hops, third in barley and potatoes, fourth in rye and buckwheat, fifth in oats and agricultural implements, seventh in iron, steel and wool, eighth in hay and milch cows, ninth in copper, tenth in wealth, eleventh in miles of railway, sixteenth in population and twenty-third in square miles. Industries: The chief industry is agriculture, with large crops of corn, wheat, oats, barley, hay, potatoes and hops, as the staple productions. Live stock is largely raised. In the production of wool and cheese it is among the leading States. The manufacturing interests are large and increasing. The great pine forests in abundance, and the most valuable timber, lead, iron, zinc and marble mines are extensively worked. Lakes Michigan and Superior and the Mississippi afford great natural highways for commerce.

Salaries of State Officers.



INDUSTRIES— The leading in-dustries are: 1. Agriculture, the staple produc-tions being corn, wheat and oats, while other ce-reals are largely raised. 2. Lum-bering. great bering, great quantities of lum-ber are sawed in this State, and immense rafts of logs are floated down the Missisdown the Mississippi to be sawed in other States. 3. Manufactur in g, the principal articles being sawed lumber and flour.

SALARIES OF STATE OFFICERS -Governor, \$3,800; Lieut. Governor, Lieut. Governor, \$600; Sec'y State, \$1,800; Sreasurer, \$3,500; Auditor, \$3,000; Attorney General, \$2,500; Superintendent Public Instruct'n, \$2,500; Adjutant General, \$1,500; Public Examiner, \$3,000; Insurance Commis'r, \$2,000; Commissioner of Statistics, \$2,000; Commissioner of Statistics, \$2,000; Railroad Commissioner, \$3,000; State Librarian, \$2,000; Chief Justice, \$4,500; Senators and Representatives, \$5 per day and 15 cents mileage; District Judge, \$3,500.



IOWA (Hawkeye State)-First settlement, by the French Canadians, Burlington, 1788. Admitted to the Union, 1846. Ranks first in hogs, second in miles of railway, milch cows, oxen and other cattle, corn, hay and oats; third in horses, fifth in barley, sixth in potatoes and rye, seventh in coal and wheat, tenth in population, eleventh in wealth, twenty-fourth in square miles.

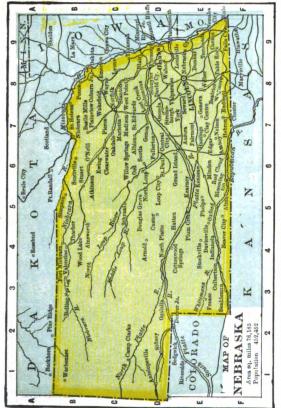
INDUSTRIES -Agriculture and mining are the leading pursuits. The State takes a leading position in the production of wheat, corn and cattle. The manufactures are important, and show great progress annually.



NEBRASKA—First settlement, by Americans. Admitted to the Union in 1867. Ranks eighth in corn and barrey, ninum 1975, 1867. Ranks eighth in corn and barrey, nin Admitted to the Union in 1867. Ranks eighth in corn and barley, ninth in rye, fourteenth in miles or

Governor\$2,500	Commissioner of Public Lands \$2,000			
Lieut. Governor	Chief Justice 2.500			
Secretary of State \$2,000	Senators and Representatives			
Treasurer 2.500	District Judge \$3,500			
Auditor Public Accounts 2,500	Collector Internal Revenue 4.500			
Attorney General 2 000	Surveyor General 2.000			
Superintendent Public Instruction 2.000	3 Indian Agents \$1,200 to 1,600			
Secretary Board of Agriculture 1.000	•			

DAKOTA-First settlement, by Americans, at Pembina. Organized as a Territory, 1861. Admitted into the Union as two States, North and South



Dakota, 1889. Ranks third in gold and square miles, n in thin silver, thirteenth in miles of railway, thirty-ninth in population. Special census of Dakota in 1885, showed a population of 415,610. In 1886, the Governor, from data filed in the executive departm'ts of the Territory, e stidepartm'ts of the Territory, e s ti-mated the popu-lation at 500,000, and in 1887 as 568,-477. The total as-sessment of prop-erty in 1886 was \$100,490,549, and in 1887, \$157,084,-365. 365.

STATE OFFICERS Gove'or, \$2,600; Sec. of Territory, \$1,800; Treasurer, \$2,000; Auditor, \$1,000; Superintendent Public tendent Public Instruc'n, 1,500; Chief Justice, \$3,-500; 5 Associate Justices, \$4,000; Sen'tors and Representatives, \$4 a day, 200. mileage; 10 Indian Agents, \$1,000 to \$2,200; Surveyor Gen'ral, \$2,500; Chief Cl'k, \$1,800; Cf. Draftsman, \$1,500; Ass't Draftsman, \$1,500; Collector Internal Collector Internal Revenue, \$2,750; 4 Deputy Collect-ors, \$1,600.



[and \$5 a day

MISSOURI (Pennsylvania of the West)-First settlement, by the French, at Ste. Genevieve, 1764. Admitted to the Union, 1821. Ranks first in mules, third in oxen, hogs, corn and copper; fifth in population, sixth in iron ore, wool, milch cows and horses; seventh in oats, eighth in wealth, wheat and tobacco, ninth in sheep and potatoes, tenth in miles of railway, sixteenth in square miles.

INDUSTRIES -Agriculture is the leading occupation. Mining is extensively carried on in the section south of St. Louis. The iron resources of the State exceed that of any other. The manufacturing interests are large and increasing. The chief agricultural products are



great crops of corn, wheat, rye, tobacco, hemp and grapes.

Salaries of State Officers. Governor......\$5,000 Sec'y of State..... 3,000 Treasurer..... 3,000 Auditor..... 3,000 Attorney Gen 3,000 Adjutant Gen 2.000 Supt. Public Schools.. 3,000 Register of Lands..... 3,000 3 Railroad Com'rs.... 3,000 Supt. Ins. Dep't..... 4,000 Chief Justice..... 4,500 Senators and Repre's,

\$5 a day, mileage and \$30 2 District Judges \$3,500 5 Col. In. Rev. \$2,250 to 4,500 Surveyor of Customs,

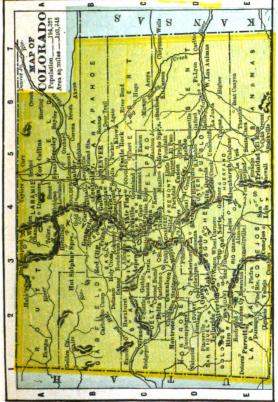
St. Louis 5,000

KANSAS (Garden of the West)—Settled by Americans. Admitted to the Union, 1861. Ranks fifth in cattle, corn and rye, seventh in hay and miles of railway, ninth in hogs, horses, wheat and coal, fourteenth in square miles, twenty-first in population, twenty-fourth in wealth.

INDUSTRIES—Agriculture and stock raising form the chief pursuits of the inhabitants. Every variety of cereal and farm products is raised in great quantities. Nearly 2,000,000 acres are mineral lands. Three-fourths of the State is suited for agriculture.

Balaries of State Officers.				
Governor\$3,000	Railroad Commissioners\$3,000			
Secretary of State 2,000	State Librarian 1.500			
Treasurer 2.500				
Auditor	2 Associate Justices 3,000			
Attorney General 1.500	Senators and Representatives\$3 per day and 15 cents mileage			
Superintendent Public Instruction	District Judge \$3,500			
Secretary Board of Agriculture	Pension Agent 4.000			
Insurance Commissioner	Collector Internal Revenue 2.750			

COLORADO (Centennial State)—First settlement, by Americans, near Denver, about 1850. Organized as a Territory, 1861. Admitted to the Union, 1876.

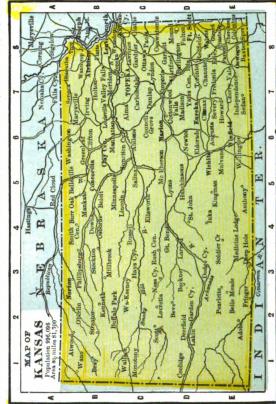


Ranks first in silver, fourth in gold, eighth in square miles, seventee th in miles of railway, thirty-fifth in population and wealth.

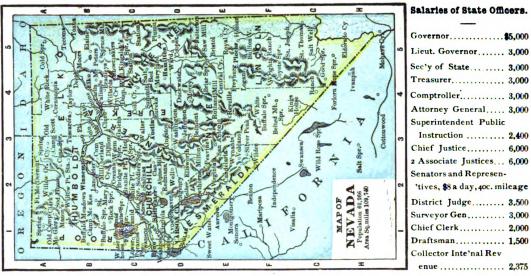
wealth.

INDUSTRIES—
About one-third of the State is good agricultural land and easy of irrigation, bringing fourth bountiful harvests of all the cereals. As a the cereals. As a grazing and dairy country it is un-surpassed, its nu-tritious grasses tritious grasses having peculiar advantages for herding. Its chief production is mining; in its yield of gold and silver it is the leading State of the Union.

ion.
SALARIES OF
STATE OFFICERS
TATE OFFICERS STATE OFFICERS
Govern'or, \$5,000;
Lieut. Governor, \$1,000;
Secretary
of State, \$3,000;
Treasurer, \$3,000;
Auditor, \$2,500;
Auditor, \$2,500;
Aution'y Gen'ral,
\$2,000;
Chief Justices,
\$5,000;
Senators
and Representatives, \$4 per day,
\$15 cents mileage;
Dist. Judge, \$3,-500;
Collector Inter'l Rev., \$2,875;
Sur. Gen., \$2,500;
Ute Indian Agt.,
\$1,400.



NEVADA(Sage Hen State) -First settlement, by Americans, in 1850. Admitted to the Union, 1864. Ranks second in gold, fourth in silver, seventh in square miles, thirty - seventh in wealth, thirty-eighth in population, fortieth in miles of railway. INDUSTRIES-The leading industry is mining. The mines of the State yield over three-fifths of all the silver produced in the United States. Stock raising is also largely followed, having a large amount of fine pasture land.

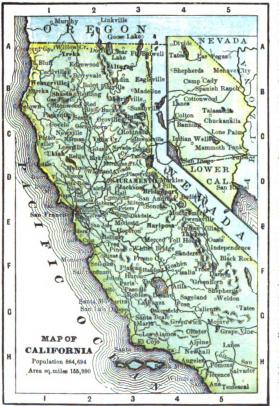


CALIFORNIA (Golden State)—First settlement, by the Spaniards, 1769, at San Diego. Admitted to the Union, 1850. Ranks first in barley, grape culture, gold and quicksilver, second in wool and square miles, third in hops, fifth in wheat and salt, seventh in silk goods, eighth in soap and silver, ninth in wealth, sixteenth in miles of railway, twenty-fourth in population. Industries: Mining, manufacturing, stock raising and agriculture form the principal industries of the State. Commerce is extensive with China, Japan, the East Indies and Australia, and with other States and Territories. The State ranks first in the culture of the grape, and one of the foremost in wheat raising.

No State in the Union has developed so rapidly.

Salar	les of State Onicers.
Governor.	\$6,000 District Judge
Secretary of State	3,000 Senators and Representatives\$8 a day, 10 cents mileage and \$25
Treasurer	3,000 2 Collectors Internal Revenue
Comptroller	3,000 Collector Customs, San Francisco
Superintendent Public Instruction.	3,000 Pension Agent 4,000
Attorney General	3,000 Superintendent of Mint 4,500
Surveyor General	3,000 Assayer 3,000
State T ibrarian	2,000

OREGON-First settled, by Americans, 1811. Territory organized, 1848. Became a State in 1859. Ranks seventh in fisheries, tenth in square miles

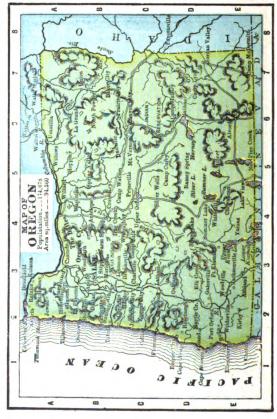


fiftee'th in wheat, thirty-second in miles of railway, thirty- ourth in

miles of railway, thirty- ourth in wealth, thirty-six in population.

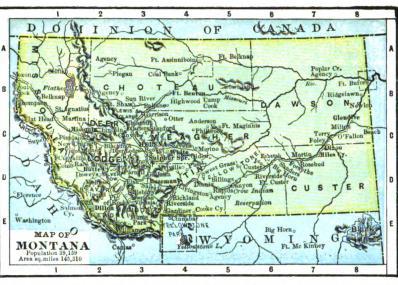
INDUSTRIES—
Agriculture, stock raising and lumbering are the chief pursuits; bering are the chief pursuits; wheat being the staple article of the former, while most of the wilder States flourish. Cutting timber from the immense ripe for. mense pine for-ests of the State gives employm'nt to great numbers of inhabitants.

SALARIES OF STATE OFFICERS —Gov'nor, \$1,500; Secret'y of State, Auditor & Comptroller, \$1,500; Treasurer, \$500; Treasurer, \$500; Superintendent of Public Instruct'n, \$1,500; State Librarian, \$500; Cf Justice, \$2,000; 2 Associa, Justices, \$2,000; Senators and Representatives, \$3 a day and and Representa-tives, \$3 a day and is cents mileage; District Ju dg e, \$3,500; District Attorney, \$200 and fees; Collector Int. Revenue, \$2,500; Collector Customs, Astoria, \$3,000; Surveyor General, \$2,500.



MONTANA

Ranks fourth in silver and square miles, fifth in gold, fifteenth in cattle, thirty-sixth in miles of railway and forty-fourth in population. The population of Montana, according to census of 1880, was 39,159, but in 1884 the total vote cast for delegate to Congress was 26,969, and in 1886, 32,262. This last vote indicated a population of 151,472. First settlement, by Americans, 1852. Organized as a Territory, 1864. Admitted to the Union in 1889.



IDAHO—Ranks sixth in gold, seventh in silver, twelfth in square miles, forty-third in miles of railway, forty-fifth in population. Population, 1880, 32,610. First settlement, by Americans, 1842. Organized as a Territory, 1863.

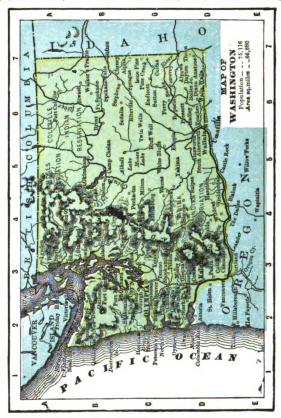
Salaries of Territorial Officers.				
Governor	\$2,600	Senators and Representatives\$4 per day and 20c. mileage		
Secretary	1,800	2 District Attorneys \$250 and fees		
Treasurer	1,000	Collector Internal Revenue \$2,250		
Auditor	1,800	3 Deputy Collectors		
Librarian	250	Assayer 2,000		
Chief Justice	3,000	Assistant Assayer		
2 Associate Justices				

WASHINGTON-Ranks eighth in gold, seventeenth in square miles, forty-first in population, forty-second in miles of railway. Population, according



to territorial census in 1885, 127,292, and in 1887,
143,669. First settleme't, by Americans, at Astoria,
1811. Organized
as a Territory,
1853. Admitted
to the Union,
1889.

SALARIES OF STATE OFFICERS -Gov'nor, \$2,600; Secretary, \$1,800; Treasurer, \$1,200; Auditor, \$1,200; Superint endent Public Instruct'n, \$1,000; Librarian, \$400; Ch'f Justice. \$3,000; 3 Asso'ate Justices, \$ 3,000; Senat'rs and Representatives, \$4 a day and 20 cents mileage; Surveyor General, \$2,-500; Chief Clerk, \$1,800; C'f Draftsman, \$1,700; Collector of Customs, \$1,000 and fees; Collector Intern'l Revenue, \$2,250; 3 Deputy Collectors Internal Revenue, \$1,200 to \$1,-600.



Salaries of State Officers.

Governor......\$2,600

Secretary 1,800 Treasurer 1,500

Auditor..... 1,500

Supt. Public Inst'n 1,200

Chief Justice...... 3,000

2 Asso. Justices 3,000

Surveyor Gen \$2,500 Chief Clerk 1,800

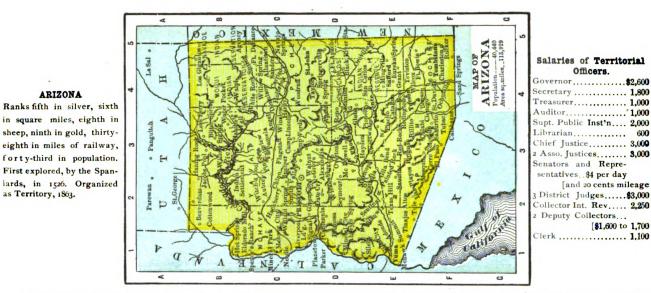
Chief Draftsman..... 1,600 Collector Int. Rev..... 2,500

[ternal Revenue.... 1,600

[\$4 per day, 20c. mileage

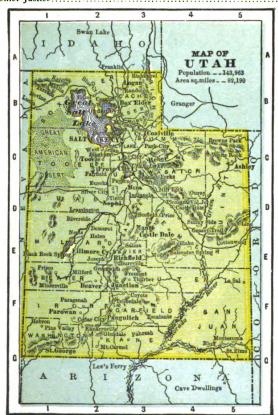
Senators and Repre'es

5 Deputy Collectors In-



UTAH-Ranks third in silver, tenth in gold, eleventh in square miles, fifteenth in coal, thirty-fifth in miles of railway, thirty-eighth in population. First settlement, by Americans, at Salt Lake City, 1847. Organized as a Territory, 1850.

Salaries of Territorial Officers.				
Governor\$2,600	2 Associate Justices			
Secretary	Senators and Representatives\$4 per day and 20 cents mileage			
Treasurer 600	District Attorney\$250 and fees			
Auditor 1,500	11 United States Commissioners fees			
Superintendent Public Instruction	Collector Internal Revenue\$2,500			
Librarian	2 Deputy Collectors\$1,600 to 1,800			
Chief Justice 3 000				

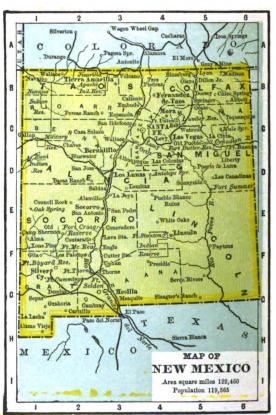


ARIZONA

as Territory, 1863.

NEW MEXICO Ranks fifth in square miles, eighth in silver, eleventh in gold, nineteenth in sheep, twentysecond in cattle, thirtieth in miles of railroad, fortieth in population. First settlement, by the Spaniards, at Santa Fe, 1537. Organized as territory, 1850. SALARIES OF

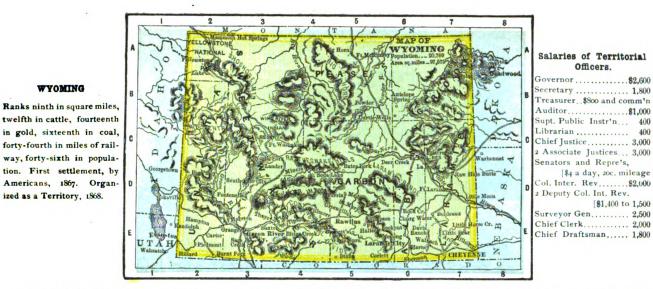
TERRITORIAL OFFICERS -Governor, \$2,600; Secretary, \$1,800; Treasurer, \$1,000; Auditor, \$1,000; Com. Immigra'n, \$900; Librarian, \$600; Ch'f Justice, \$3,000; 2 Associ'te Justices, \$3,000; Senators and Representatives, \$4 a day and 20c. mileage; Collect-or Internal Reveor internal Revenue, \$2,500; 2 Deputy Collectors Internal Revenue, \$1,200 to \$1,700; Surveyor Gener'l, \$2,500; Translator and Chief Clerk,



Officers.

[and 20 cents mileage

[\$1,600 to 1,700



THE INDIAN TERRITORY was originally set apart as a reservation for peaceful tribes. Organized in 1834, but not under the same forms of government as the other Territories. The lands are held in common by the Indians, each being allowed to cultivate as much as desired, and whites can hold land only by marrying an Indian. Grazing and agriculture are the leading industries. Oklahoma was opened up to white settlers in 1889. Ranks eighteenth in square miles and forty-fifth in miles of railway.

•	•	Indian Agencies.	
Agent	ARAPAHOE.	\$ 900	Agent
Agent	CHEYENNE.	\$2.200	Physicia
Physician	•••••		Superint
	KAW.		3 Teache

WYOMING

KIOWA AND COMANCHE.	
Agent	\$1,000
Physician	1,000
OAKLAND.	
Superintendent	\$1,000
3 Teachers.	

Officers.

[\$4 a day, 20c. mileage

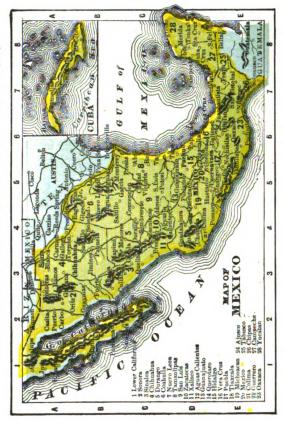
[\$1,400 to 1,500



MEXICO AND CUBA.

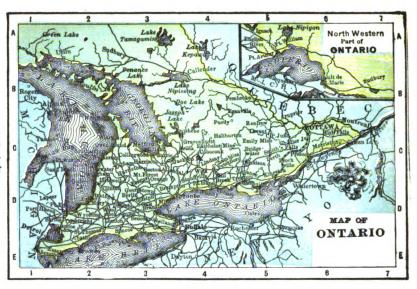
The Republic of Mexico comprises twenty - seven States, a Federal District and the territory of Lower California.

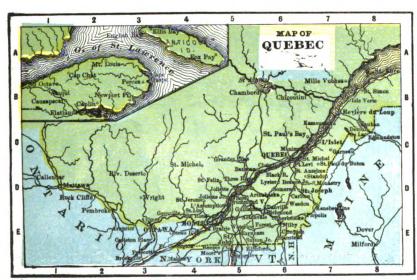
Agriculture, mining and stock raising constitute the principal industries. The climate in the elevated interior is mild and healthful, but along the coast it is very hot and pestilential. The Mexicans are a very mixed race, about one - tenth being Creoles, descendants of Spanish colonists.



ONTARIO

is the most important Province of Canada. Principal products, grain, fruit, lumber, petroleum, copper and iron. The population of Ontario is one-third of the whole Dominion. Toronto, the capital, is the manufacturing and educational center. The population of this Province is largely of British descent.



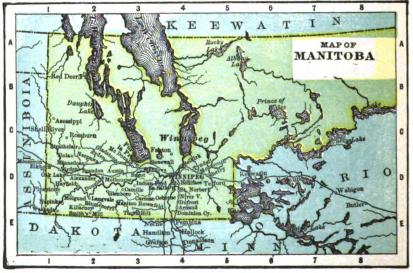


QUEBEC

was originally settled by the French, and the present population is largely composed of descendants of the Voyagers. The capital, Quebec, is the oldest city in the Dominion. Its fortifications were at one time considered, next to Gibraltar, the strongest in the world. Nevertheless, the fortress was captured by General Wolfe. The metropolis, Montreal, is noted for its churches.

MANITOBA

is a great wheat-growing country, and furs are also a leading product. The first settlers, 1731, were French, and English traders first made their appearance in 1767. The Province is now traversed by the Canada Pacific Railway. Climate very severe in winter, but occasionally hot in summer. The soil is such that wheat ripens in 110 days. Winnipeg is the capital.



	HETC	HISTORICAL CHART.	T.
B. C.	M ∃HL M	ORLD'S HISTORY, FROM THE FLOOD TO THE YEAR	YEAR 1890
	2350. The Delug. 1921. Call of Abraham, 1728. Joseph sold into Egypt. 1706. Jacob removes into Egypt. 1574. Birth of Aaron. 1571. Moses born. 1491. Law given from Mount Sinai. 1451. Death of Moses. 1451. Joshua. 1451. Israelites enter Canaan.	old into Egypt. 21. Moses born. 1491. Exodus. 1451. Joshua.	
	HEBREWS.	EGYPT.	GREECE.
1300		The Pharaohs.	
1200	85. Deborah, judge in Israel. 45. Gideor slaughters the Midianites.	Grand State Control	63. Jason and the Argonauts.
	88. Jepthah, judge.	3	94. Trojan war,
	50. Ent. Judge.	o de la companya de	84. Troy taken.
1100	80,		
	os Saul Vina		
		 Cneeps, king of Egypt, builds the great pyramid. 	69. Codrus, last king of Athens, dies for his
			people.
	15. Solomon, king.	objections.	68. Archons chosen instead of kings.
1000	4. Dedication of the Templese		43. Ionians settle in Asia.
	75. Death of Solomon.	20 Chicket	
	Revolt of the ten tribes.	/o. Sinstan.	
	Jerol	71. Shishak conquers Judea and plunders the Temple.	
006	58. Abijah defeats Jeroboam. 54. Nadab. 55. Asa, a pious king. 26. Samaria built. 18. Ahab and Jezabel.		
800	89. Jehoram. Elijah, the prophet. 88. Philistines plunder 88. Prophet Elisha.	**************************************	Homer, Greek poet.

taken by het. het. phet. phet. rophet. rophet. prophet. prophet. taken by destroyed. destroyed. destroyed. destroyed.	1000	AIGUSSA	- BIT 181 B 181 C 18	1 4	
8, 6, 6, 1, 8, 4, 4, 6, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8,	ISKAEL.	ASSI KIA.	EGYPT.	GREECE.	ROME.
6, 4, 6, 1, 6, 4, 4, 6, 8, 6, 8, 8, 6, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8,	84. Jehu. 40. Jehoash defeats Ben- hadad, king of Syria.			84. Lycurgus, lawgiver.	
0. 9. d. d. d. 88. d.	Jonah, prophet. 47. Invasions of Assyrians under Tiglath-Pileser. 30. Hosea pays tribute. 6. Shalmaneser.	47. Tiglath-Pileser, king. 28. Shalmaneser		76. First Olympiad, from which the Greeks reckon time.	53. Rome founded by Romulus. 50. Sabine war.
8, 4, 4, 5, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8,	ar. The ten tribes carried i	The ten tribes carried into captivity in Assyria. Esarhaddon, king.	11. Invaded by Sennach- erib.	•	
T	BABYLONIA. Esarhaddon sends colonies into Samaria. 6. Nebuchadnezzar defeats Necho of Egypt and takes Jerusalem.	BABYLONIA. Idon sends colonics into Samaria. adnezzar defeats Necho of Egypt and Jerusalem.	Necho. Canal from Nile to Red Sea attempted. Necho defeated by Nebuchadnezzar.	85. Second Messenian war.	16. Tarquin the Elder.
	eveh	destroyed by Nebuchadnezzar.	94. Apries, king. 72. Devastation of Egypt by Nebuchadnez- zar. ,Amasis, king. 25. Psammenit, king.	94. Solon, Athenian law-giver. 60. Pisistratus. 14. Harmodius and Aristogiton.	78. Servius Tullius. 34. Tarquin the Proud. 10. Lucretia.
60. Neriglissar. 55. Belshazzar. 38. Babylon taken by Cyrus the Mede. 500 36. Jews restored by Cyrus.	the Mede.			10. Hippias expelled.	Brutus. Republic. Consuls.

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m	က ပ	MEDES and PERSIANS.	GREECE.	MACEDON.	ROME.	=
	500	Excharital, prophet. Haggal, prophet. 15. Second Temple dedicated at Jerusalem. 94. Dartus invades Greece.	90. Miltiades at Marathon,	8. Subdued by Darius,	i. Dictators.	
		90. His army defeated at Marathon. 85. Xerxes. 81. Invades Greece. 80. Returns defeated. 67. Eara returns to Jerusalem. 64. Artaxerxes I.			93. Induses cnosen. 82. Coriolanus. 56. Cincinnatus, dictator. 49. Virginius kills his daughter, Virginis, to save her from Appius Claudius.	
	8	¥ ¥	 64. Third Messenian war. 31. Peloponnesian war. 29. Death of Pericles. Socrates. 		40. Great famine in Rome.	
		Artaxerxes Mnemon. Cyrus the Younger revolts and is slain at battle of Cunaxa. 36. Darius Codomanus.	95. Corinthian war. 80. Olinthian war. 78. Theban war. 71. Battle of Leuctra. 38. War with Macedon.	59. Philip II.	 91. Rome invaded by the Gauls. 90. Rome burned. 69. Tribunes abolished. 43. Beginning of the Samnian war. 40. Surrender of the Latin cities. 	
	300	× × 4	es. 33. Bantle of Issus, 32. Conquers Egypt	and Tyre. Enters Jerusalem. 31. Battle	1	
	900	BGYPT. JUDBA, Ptolemy Lagus. Subject to Egypt. 84. Ptolemy Philadel- phus. 46. Ptolemy Ever- getes.	Seleucus. 97. 83. Antiochus I. 66. Seleucus III. 26. Seleucus III.	GREECE. Republic re-estab- lished. Achæan League formed. Macedon.	80. Pyrrhus, king of Epirus, defeats the Romans. 74. Pyrrhus beaten. 65. First Punic war. 55. Carthaginians defeated. 7. Battle of the Metaurus.	
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										100000							150 Albinonia	Ingolapano	umum	Ima			=	_	_		_
		I.S. Second Punic war, Hannibal defeats Romans at	Heinus, 16. Battle of Cannæ,	14. First Macedonian war,	3. Scipio in Africa,	2. Defeats Hannibal.	99. Second Macedonian		68. Defeat of Perseus.	49. Third Punic war.	46. Carthage destroyed,	. Spain conquered.) 124			ate. Octavius, Anthony and Lexisting		9. Arminius defeats Varue	81. Agricola conquere Brie	196. Byzantium taken by e	63 Franks in Cont	Oddi.	4- Constantinople founded APIRE.	rom Theodosius II.	
MACEDON						ı	78. Perseus.	Battle of Pydna.	4	5	94	33.		73.	. 66.		44. Battle of Pharsalia. Pompey defeated	43. Second Triumvirate.	emperor.			ſ Christians.	Christians,	İ	EASTERN EMPIRE.	Ē	
GREECE.		51. Renewal of the	Achæan league.				91. Sparta joins the	VCIII		46. Corinth taken,	34 First Samula		90. Social war		86. Second Pontian war.	Co Change Lin	44. Battle of Pharsalia.	Cæsar assassinated,	3c. Octavius Augustus, emperor.			63. Persecution of Christians,	236. Persecution of Christians.	Constantine, sole emperor.		ti 42	
SYRIA.	23. Antiochus the	Great,	and the same of th		Winner		30. Antiochus VII		12. Antiochus IX.			T T		69. Antiochus XIII.		in.		44. Cæsan		lemsalem destrond 1	Jernsolom 1 1.	rein rebuilt.	ı war.	23.		Romans driven out of Spain.	
JUDEA.						Egyptians driven	out by Antio- chus.	65. Judas defeats	35. John Hyregung	6. Aristobulus.	5. Alexander Jan-	· con	70. Hyrcanus II.	67. Aristobulus II.	66. Judea and Syria subdued by Pompey.		48. Civil war between Cæsar and Pompey.			70. Jemsa			31. Persian war.	WESTERN EMPIPE		9.	
	21. Ptolemy Philopator.	4. Ptolemy Epiph-	anes.		-	80. Ptolemy Philo.	metor.	45. Ptolemy Phys-	con.	17. Ptolemy Lathy-	Ġ		Ptolemy Alexan-	, Do. 1		45. Cleopatra.	30. Egypt subdued.		The Advent,	54. Nero.	17. Hadrian.	9. Caledonia invaded by Severus	H. Edict to ston nerconsticution	95. V	Alaric ravagres Italy	76. Odoacer, king of the Herul, puts	
i					200						100							- III	A. D.		100		300				

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EASTERN COUNTRIES.	31. Chosnos I., king of Persis.	 12. Mohammed begins to propagate his doctrines. 14. Persians take Syria and threaten Constantinople. 22. The Hegira. 38. Saracens in Arabia. 		Aron Al Raschid, caliph of Arabia.	. 9. Died.		65. Turks take Jerusalem.	98. Crusaders take Antioch.	99. Crusaders take Jerusalem.	4. Consaders take Acre.
EASTERN EMPIRE.	Revaged by Persans. 9 Justinian Code published. 9 Belisarius in Italy.	27. Heracius invades Persia. 73. Saracus besiege Constantinopie. 79. seven years.	18. Second attempt by Stracens to take Constantinople.	oo. Michael II.		66. John Zimisces.	54. Schism of Greek Church.	8t. Alexius Comnenus. 96. Suspicious reception of the Crusaders.		
ITALY.	so. Ostrogoths expelled.	62. Lombards defeat Constans II. 97. Ancfesto, doge of Venice.	74. Charlemagne conquers Lombards.	emperor of the West.	GERMANY. House of France. 14. Louis the Debonnaire.	n has House of Saxony. 19. Henry I., the Fowler. sty. 34. Defeats Danes. 16. 83. Otho III.	House of Bavaria.	House of Franconia. 22. Conrad II. 39. Henry III. 56. Henry IV.	nd. 73. War with the Saracens.	6. Henry V 38. Conrad II.
WESTERN COUNTRIES.	Clovis makes Paris his capital. Clothaire, king of the Franks.	king of France. king of France. er, last king of the	Saracens in Spain. Charles Martel, duke of France. Battle of Tours. Danes in England.	Charlemagne,	Anglo-Saxon Kings 28. Egbert, king. 40. Charles the Bald. 71. Alfred the Great.	24 Atheistan. 12. Rollo the Norman has Normandy. 33. Ravages Scotland. 87. Hugh Capet. king.	Edmund. Robert II. Danish Kings. 31. Henry I.	Philip I. First Crus	66. Battle of Hastings. Norman Dynasty. William I. 87. William II.	Henry I. 8 Louis the Fat. Stephen. 37. Louis VII.
WESTER	7. Clovis ms 58. Clothaire,	28. Dagobert, 56. Clovis II., 78. Cadwallad Britons.	11. Sarac 14. Charl 32. Battle 87. Dane	ENG	Anglo-Saxon Ki 28. Egbert, king. 71. Alfred the Gr	24 Athelstan. 33. Ravages So	r6. Edr	9 9 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Morna Wi 87. Wi	Her 35. Step

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EAST'N EMPIRE.	eg. Perridy to German Crusaders.	4. Latin Emperors.	Baldwin I.	19. Robert de Cour-	28. Baldwin II.	61. Recovered by the Greeks.	Michael Paleologus.	28. Andronic III.		60. Turks in Adrian- ople.	gr. Manuel Paleologus.	Empire reduced by	Constantinople.		25. John Paleologus II.	48. Constantine Paleo-	ca. Constantinople cap-		End of the Empire.	1			
Tarres.	25. Venice in her glory. 46. Second Crusade. 59. Guelphs and Ghi- 47. Third Crusade. 94. Fourth Crusade.	18.	17. Sixth Crusade. 38. Moorish kingdom of Granada	48. Seventh Crusade.		82. Sicilian Vespers. 99. Osman I. Turkish Empire.		11. Suppression of Knights Templars.		48. Dreadful pestilence throughout the world.	6r. Free Lances in Italy.	96. Battle of Nicopolis. Christians defeated.	97. Union of Denmark, Sweden and Norway.		2. Battle of Angora. Tamerlane captures	Bajazet I.	22. Amurat II. reunites Ottoman Empire.	40. Invention of Printing.	56. Battle of Belgrade. Turks defeated.	74. Ferdinand and Isabella in Spain.	92. Conquest of Granada. Columbus discovers America.		
GERMANY. 52. Frederic I., Barbarossa.	54. Invades Italy. 62. Destroys Milan. 67. Italian League.	9. Otto IV.		 Hanseatic League. House of Hapsburg. 		92. Adolph of Nassau. 98. Albert I.		7. Revolt of Swiss.	William Tell.	15. Battle of Morgarten.	Swiss Independence.			78. Wenceslaus.	10. Sigismond.	15. John Huss burned.	ro. John Zisca, a Hussite	victories and makes		38. House of Austria.	Albert III.	93. Maximilian I.	
FRANCE.		14. Battle of Bouvines.	Louis VIII.	26. Louis IX. (St. Louis.) 70. Philip III.	7.3			14. Louis X.	r6. Philip V.		28. House of Valois.	So. John II.		8o. Charles VI.	22. Charles VII.	29. Joan of Arc enters	Orieans,		61. Louis XI. 81. Charles VIII.	96. House of Valois-	Orleans. Louis XII.	99. French take Milan.	
ENGLAND.	The Plantagenets. 71. Conquest of Ireland. 89. Richard I., Cœur de Lion. 99. John Lackland.	15. Magna Charta.	16. Henry III.	62. War of the Barons.		 82. Conquest of Wales. 97. Sir William Wallace in 		7. Edward II.	14. Battle of Bannockburn.		46. Battle of Cressy.		99. Henry IV., of	House of Lancaster.	rg. Henry V.	War with France.		22. Henry VI.		Edward IV.	83 Edward V. Richard III.		
A D.	XXX	1200	7					1300							1400								

A. D.	ENGLAND.	FRANCE.	GERMANY.	CONTEMPORARY.	AMERICA.
1500	9. Henry VIII. 13. Battle of Flodden. 15. Wolsey's power begins. 20. Field of the Cloth of Gold. 36. Ann Boleyn beheaded. 47. Edward VI. 53. Mary. 58. Elizabeth. 87. Mary of Scots beheaded. 88. Spanish Armada.	13. Invasion of English. 15. Finacis I. 25. Battle of Pavia. 27. Henry II. 29. Francis II. 60. Huguenot War. 72. Massacre St. Bartholomew. 74. Henry III. 89. House of Bourbon. Henry IV. of Navarre.	17. Reformation. Luther. 19. Charles V. 21. Diet of Worms. 30. Augsburg Confession. 36. Death of John of Leyden 56. Abdication of Charles V. Ferdinand I. 64. Maximilian II. 76. Rudolph II.	21. Wars of Charles V. in Italy. 27. Capture of Rome. 33. Ivan IV. of Russia. 35. Order of Jesuits founded. 56. Philip II. of Spain. 59. Frederic II. of Denmark. 71. Battle of Lepanto. 81. Holland a republic. 82. Reformation of calendar.	ra. Ponce de Leon, Florida. 19. Cortez, Mexico. 32. Pizarro, Peru. 41. De Soto in Louisiana. 65. St. Augustine in Florida, oldest city in United States.
1600	3. House of Stuart. James I. 25. Charles I. 49. Commonwealth. Oliver Cromwell. 60. Restoration Stuarts. Charles II. 66. Great fire, London. 79. Habeas corpus act. 85. James II. 88. William and Mary. 90. Battle of Boyne.	10. Louis XIII. 24. Cardinal Richelieu. 27. Siege of Rochelle. 43. Louis XIV. 48. Wars of the Fronde. 72. Invasion of Holland. 85. Revocation of the Edict of Nantes. 97. Peace of Ryswick.	12. Matthias. 18. Thirty-years' war. 17. Ferdinand II. 20. Battle of Prague. 30. Invaded by Gustavus Adolphus. 32. Battle of Lutzen. 34. Death of Wallenstein. 37. Ferdinand III. 59. Leopold I.	11. Gustavus Adolphus, Sweden. 13. Romanoff dynasty, Russia. 35. Tulip mania. 52. Van Tromp sweeps the Channel. 69. Turks take Candia. 83. Turks defeated at Vienna by John Sobieski, king of Poland. 89. Peter the Great, Russia. 97. Charles XII., Sweden. 99. Peace of Carlowitz.	7. Jamestown founded. 8. Quebec. 14. New York settled. 20. Plymouth Rock. 27. Swedes in Delaware. 34. Maryland. 83. Pennsylvania. 90. Sir William Phipps expedition.
1700	2. Anne. 4. Battle of Blenheim. 14. House of Hanover. George I. 27. George II. 39. War with Spain. 46. Battle of Culloden. 56. War with France. 60. George III. 75. War with colonies.	15. Louis XV. 16. George Law scheme. 45. Battle of Fontenoy. 74. Louis XVI. 78. Aids Americans. 89. States General. 90. Revolution. 92. Battle of Valmy. 92. Battle of Valmy. 99. Napoleon First Consul. 99.	5. Joseph I. 11. Charles VI. 41. Charles VII. War of Austrian Succession. 45. House of Lorraine. Francis I. 65. Joseph II. 90. Leopold II. 92. Francis II.	1. War of the Spanish Succession. 9. Battle of Pultowa. Charles XII. defeated. 25. Catherine I., Russia. 40. Frederic II., Prussia. 41. Maria Theresa, queen of Hungary. 57. Battle of Prague. 60. Capture of Berlin. 62. Catherine II., Russia. 85. Partition of Poland.	59. Quebec taken. 61. Canada ceded to England. 75. Revolutionary war. 76. Declaration of Independence. 81. Surrender of Cornwallis. 89. Washington, president of United States.

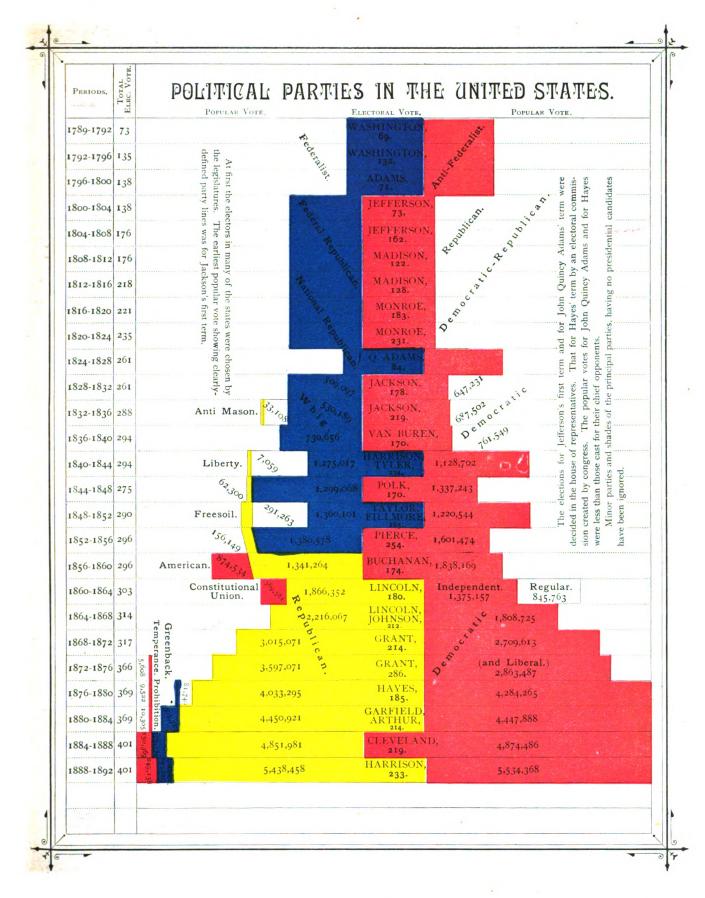
AMERICA.	1. U. S. war with Tripoli, J. Louisiana ceded to U. S. Hayti a republic. U. S. war with England J. S. war with England I. Chill-Peri war I. Canadian and U. S. Island I. Canadian of Canada I. Dans relected III Dans relected	
CONTEMPORARY.	11. Aexander, Russin, 8. French in Spain. 12. Burning of Moscow. 14. Ferdinand VII., Spain. 15. Holy allance, 25. Givil war in Spain. 25. Givil war in Spain. 26. Ovid war in Spain. 27. Battle of Navarino. Greece independent. 28. Sardinia. 29. Sardinia annexes Lombardy. 20. Naples and Sicily taken. 29. Sardinia annexes Lombardy. 20. Naples and Sicily taken. 29. Sardinia annexes Lombardy. 20. Naples and Sicily taken. 20. Naples and Sicily taken. 27. Russia. 28. Annaceus, king of Italy. 28. Assassination of Alexander III. 29. Humbert, king of Italy. 29. Humbert, king of Italy. 20. Humbert, king of Italy. 30. Assassination of Alexander III. 31. Assassination of Alexander III. 32. Alfonso XIII. Spain. 33. Coronation of Alexander III. 36. Alionso XIII. Spain. 38. Italy takes Massonwah in Africa.	
AUSTRIA.	Empire. 4. Francis. 5. Battle of Austerlitz. 10. Marriage of Maria Louisa. 13. War with France. 15. Treaty of Vienna. 12. Lombardo-Venetian kingdom established. 25. Hungarian diet meets. 35. Ferdinand I. 48. Hungarian war. Francis Joseph. 56. Amnesty to Hungarians. 59. War with France and Italy. Solferino. 61. Disaffection in Hungary. 66. Defeat at Sadowa. 74. Reforms. 74. International exhibition, Vienna. 78. Occupation of Bosnia and Herzegovina. 80. Agreement with Germany and Herly. 80. Alliance with Germany and Huly. 87. Alliance with Germany and Huly. 89. Death of Crown.	
PRUSSIA.	1. Takes Hanover, 6. Battle of Jena. 7. Peace of Tilsit. 8. Serfdom abolished. 13. War with France. 14. Prussians occupy Paris. 15. Germanic confederation. 26. Collverein includes most of the States. 27. Revolution. 28. New constitution. 29. New constitution. 29. New constitution. 29. New constitution. 20. New constitution. 20. New constitution. 21. William I. 22. War with Denmark. 23. Plot to overthrow government detected. 24. War with Denmark. 26. War with Austria. 27. William made emperor of Germany. 28. Attempt to assassirate the emperor. 27. William II. 28. Socialists restless. 28. Imperial rescript. 28. Death of William II. 29. Germans in East 20. Africa and Samoa.	
FRANCE.	4. Napoleon I., emperor 5. Austerlitz. 6. Jena. 9. Battle of Wagram. 1a. Campaign in Russia. 14. Allies enter France. Restoration. Louis XVIII. 15. Fall of Napoleon. 24. Charles X. 30. Louis Philippe. Conquest of Algiers. 48. Revolution. Louis Napoleon. president. 51. Coup d'état. 52. Napoleon III., emp. 52. Napoleon III., emp. 53. Napoleon III., emp. 54. Revolution. Touis Napoleon. Touis Napoleon. French in Mexico. 65. Savoy and Nice annexed. 66. Savoy and Nice annexed. 77. Republic. Thiers, president. 78. MacMahon, pres. 79. Jules Grevy, president. 84. French bombard 79. Jules Grevy, resgins 85. Grevy, resgins 86. Sadi Carnot, pres. 79. Grevy resgins 87. Grevy resgins 88. Sadi Carnot, pres. 89. Boulanger's election to the cham- 10. Louis Sagreat excitement. 10. Louis Sagreat excitement.	
ENGLAND.	1. Union with trefands 3. War with France. 4. Trafalgar. 8. Peninsular war. 12. War with U. S. 13. Wellington cleurs. Spain of the French. 14. Peace with U. S. 15. Battle of Waterloo. 20. George IV. 29. Catholic relief bill. 30. William IV. 30. War with China. 48. Trouble in Ireland. 54. Crimean war. 56. War with Persia. 57. Mutiny in India. 66. Atlantic cable. 67. Fenian trouble. 40. Abyssinian war. 79. Zalu war. 79. Zalu war. 80. Famine in Ireland. Land League. 82. War in Egypt. 83. Irish Home Rule discussions 84. Anxiety about Stanley expedition in Central Africa.	
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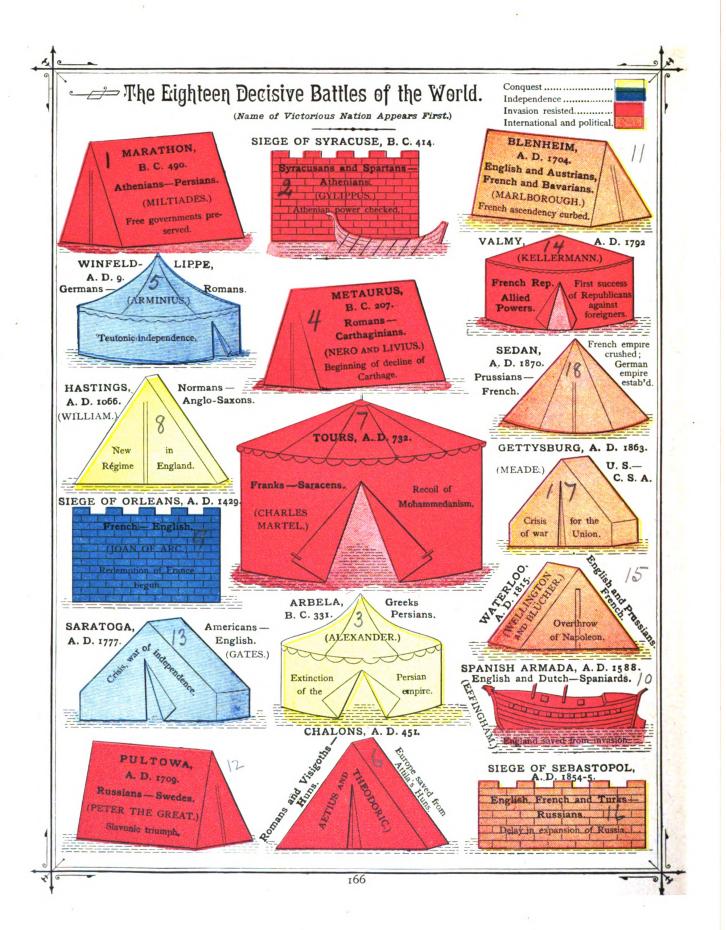
	Cartier explores the St. Lawrence. De Soto discovers the Mississippl.	a. d. t. Roanoke		Tudion	massacre.	24. Charter	0	44. Second Indian massacre.	60. Restric-	tion of trade to English marts	76. Bacon's	rebellion.		-William's war.	z. Queen	Anne s war.	inger 1	Pontiac's war.	rea. Philadelphia,	yme. Treaty of peace,
	Carrier explores the St. Lawrence. De Soto discovers the Mississippi	Huguenots in Florida. St. Augustine founded. Abortive settlement at Roanoke		n America.		29. The grants to	Patroons.	43. Indian	war.	64. Taken	English.	82 Charter	of liberties.		41, Negro plot.			CHEROLOGIES PER	Meeting of Congress in Philadelphia,	Burgo 83.
	San State of		Island	re assembly i			30. Boston founded.		39. Owner-ship of	Maine con- firmed.		75. King Philip's	war.	Witches	in .				Meeting of	77, Surrender of Burgoyne Surrender of Cornwallis, 85, Tre
				First legislative assembly in America.				55. Taken by Gov.	and an- nexed to	New Am- sterdam.			82. Part of Pennsyl-	vania.	2. Separate.		King George's war.	ington.	Colonial congress.	77. Surrender
ATES.	Balboa discovers the Pacific Occan.	Coriez conquers Mexico. Narvacz visits Florida.		charter. 19. I	tch.			3	35. Clay- borne rebellion.	39. Representative	1egislature. 49. Tolera-	fon. 60. Civil	91. Lord	Baltimore deposed.	rstion of	rights.	1945	war, ten by Wash	Colon	88
TATE	A SHEED BOOK IN	at Flatera	L.	12. Third cha	New Amsterdam settled by the Dutch	Hampshire.				37. Pequot war.	39. Adopts constitution.	75. New York claims	territory.	Odions and oppress-	we administration of Sir Edmond Andros	York, New Jersey and Pennsylvania.		French and Indian war. Fort Du Quesne taken by Washington.	Stamp act.	
U A		nce . 1521. 1528.	COLONIAL	Famine.	nsterdam sett	New	ristina.	Mary's.						86 Odions		York, Ne Pennsyl		LESS STORY	65. Stamp act.	Declaration of independence
	The Cabots on Atlantic coast	Florida discovered by Ponce de Leon	ΰ	charter. 10.	14. New An	nent at Dover,	Minuit at Christina.	ement at St.	.pc	er.		76. Two	East and	Jersey.	2. United, but subject	York.	38. Distinct	Morris,	o do la constanta	Declaration of inde- Battle of Flatbush.
þ †	The Cabots	Florida diseo de Leon.		9. Second ch		23. Settlement	38. Peter A	Catholic settlement	ersfield settle	44. Charter.					II. War	with the Tuscaroras.				75. De 76. De Ba
İ	1498.	1512.		Jamestown. 9	discovers Hudson River.	Plymouth.	es and Finns,	34.	Hartford, Windsor and Weathersfield settled	Roger Williams.	led,			86.— Charleston	founded.	with Span-	Indians.	15. Vama- see war.		
		us discovers	wfoundland	at	Henry Hudson disc	Puritans land at	Settled by Swedes a	Lord Baltim	ord, Windso	Settled by Roge	Elizabethtown settled	1.		oy William	Penn.	I. Revised				
	ANTECEDENT.	Christopher Columb America: 1	Cabot discovers Newfoundland,	First settlement				510				North Carolina settled.	South Carolina settled	Pennsylvania settled by Willia	Georgia by Ogle-	thorpe.				Revolutionary war. Battle of Lexington. Battle of Bunker Hill
	ANT	roor, Icelandia discovery. 1492. Christopher Columbus discovers Anderica.	1497. Cabot	7. Virginia.	9. New York.	20. Massachusetts.	27. Delaware.		35. Connecticut.	36. Rhode Island.	64. New Jersey.	64. North Ca	70. South Ca	82. Pennsylv	33. Georgia	41. New	Hampshire separated	from Massachu-	1060	75. Revoluti Battle o
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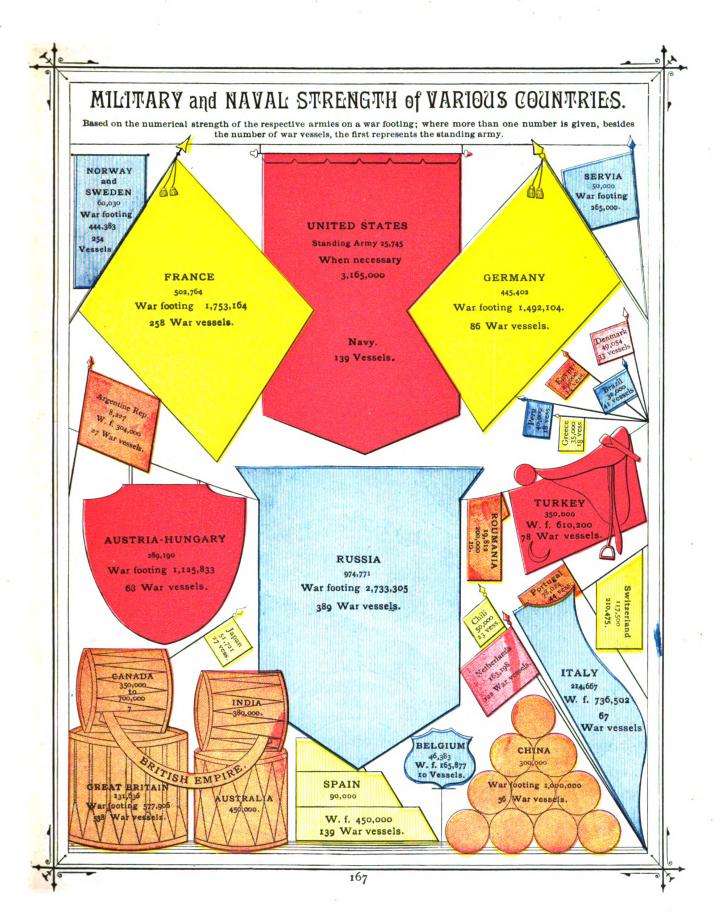
	FOREIGN.		95. Jay's treaty.	97. Treaty with D.	annulled. 98. War imminent.	I War with France.		5. Treaty of peace, Tripoli. 7. Restrictions on trade by England and trade by		Invasion of Canada. Surrender of Mackinaw.	Several naval battles.	Perry's victory. Battle of the Thames,			1
Acquisition of Territory.	Admission of States.	91. Vermont admitted.		96. Tennessee admitted.			3. Furchase of Louisiana.		12. Louisiana admitted,			13,	Indiana admitted.	Mississippi admitted. Illinois admitted.	Alabama admitted. Purchase of Florida. Maine admitted.
Red-Anti-Federalist	ocinocrat.	North Carolina ratifies the constitution. Rhode Island ratifies the constitution	Trouble with Genet, French ambassador.	Wayne's victory at Maumee.	in the state of th	4. Burr and Hamilton duel.	7. Trial of Aaron Burr for	conspiracy. Battle of Tippecanoe			14. Battle of Lundy's Lane.	Washington burned. Bombardment of Fort McHenry.	Orleans.	Seminole war. 17.	Missouri compromise, 20,
	68. Ratified by eleven states,	nt. c debt, 1791, \$75.463.470. Rhode	³ 0,352,	Public debt, \$82,064,479. ident.	Thomas Jefferson, president Public debt, \$34.008 oc.		ğ	Public debt, \$57,023,192.			Public debt. \$55,960,827. 14.	Key writes Star-Spanoled n	Sattle of New	e ·	W 08
Constitution adonted	George Washington	John Adams, vice-president. 90. Indian war in Ohio. Public debt, 1791, \$75,463,470.		97. John Adams, president. Public debt, \$82,064,479. Thomas Jefferson, vice-president. 99. Death of Washington. Government	Thomas Jefferson, president. Aaron D.	5. Thomas lefferson	George Clinton, vice-president, Public debt, \$89,318,150.	9. James Madison, president. Public debt, \$57,023,192. George Clinton, vice-president.		James Madison ne.	Elbridge Gerry, vice-president	Key	15. James Monroe, president, Public debt, free de de	Daniel Tompkins, vlos-president,	
1787	1789	1			1800					<u> </u>			17.		

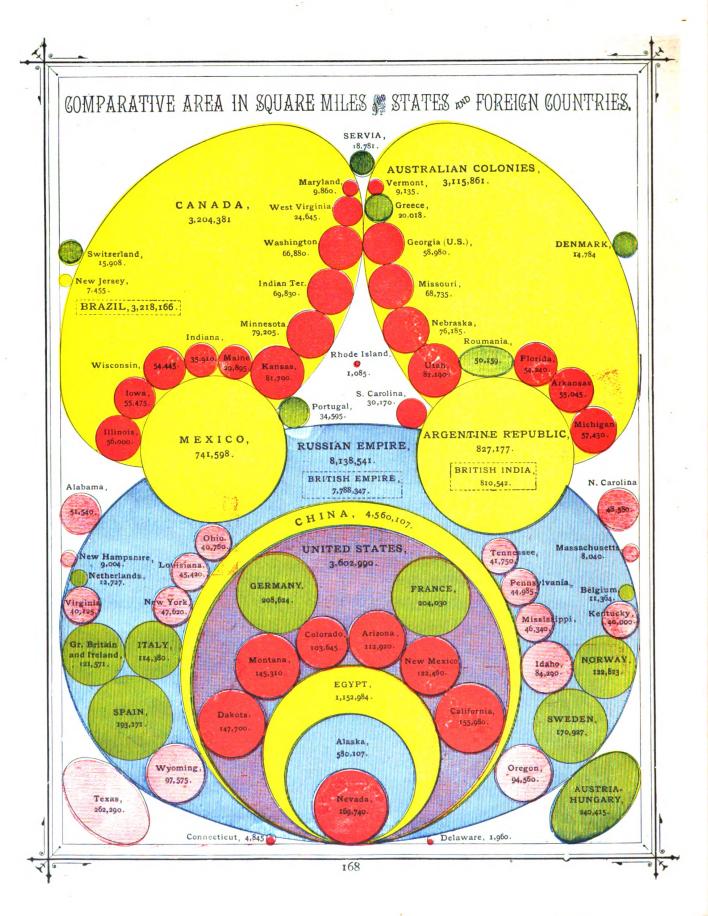
22. Acknowledgment South American republics. 26. Convention with Great Britain about indemnities.	30. Treaty with Turkey.	40. North-eastern boundary disputes.	42. Ashburton treaty. 44. Texas applies for annexation.	46. War with Mexico. 46. Battles of Palo Alto and Resaca de la Palma. 47. Buena Vista, Cerro Gordo, Contreras, Capture of city of Mexico. 48. Treaty of peace.	51. Lopez expedition to Cuba.	53. Martin Kossta protection. 54. Treaty with Japan. 59. San Juan occupied. Treaty with China. 60. Walker's filibusters invade Honduras.
Missouri admitted.	36. Arkansas admitted.	37. Michigan admitted.		45. Texas annexed. Florida admitted. 46. Iowa admitted. 48. Acquisition of New Mexico and California.	50. California admitted. 50. Boundary of Texas established.	58. Minnesota admitted. 59. Oregon admitted.
24. Lafayette's visit. 26. John Adams and Thomas Jefferson die, July 4th.	32. New tariff law. 32. Nullification in South Carolina. 32. Veto of bank bill. 33. Publie funds withdrawn from	U. S. bank. 35. Seminole war. 37. Financial crisis. 39. Banks suspend specie payments.	April 4th, Harrison died. 41. Veto of bank bill. 43. Dorr rebellion in Rhode Island.	46, Wilmot proviso. 48. Gold discovered in California.	50. July 9th, Taylor died. 50. Fugitive slave law.	54. Kansas-Nebraska bill. 55. Commotions in Kansas. 57. Mormon insurrection. 57. Francial distress. 59. John Brown's insurrection. 60. South Carolina secedes.
James Monroe, president. Public debt, \$89,887,427. Daniel Tompkins, vice-president. 25. John Quincy Adams, president. Public debt, \$83,788,433. 26. John C. Calhoun, vice-president.	Andrew Jackson, president. Pub John C. Calhoun, vice-president, 32. Black	Martin Van Buren, vice-president. 77. Martin Van Buren, president. Richard M. Johnson, vice-president.	41. Wilhiam H. Harrison, president. Public debt, \$5,259,876. John Tyler, vice-president. John Tyler, president. Public debt, 1842, \$13,594,481.	45 James K. Polk, president. Public debt, \$15,975,303. George M. Dallas, vice-president.	49. Zachary Taylor, president. Public debt, \$63,061,858. Millard Fillmore, vice-president. 50. Millard Fillmore, president.	53. Franklin Pierce, president. Public debt, \$59,803,108. William Rufus King, vice-president. 57. James Buchanan, president. Public debt, \$28,699,83:. John C. Breckenridge, vice-president.

Frent affair. England, France and Spain acknowledge Confederents as bel- ligerents. Russia sympathizes with Federal government. 64. Alabama sunk by tha Kearagrae	66. Fenian raids on Canada.	71. Treaty with Great Britain. 72. Genevan award. 73. The Virginius troubles with Spain.	81. Treaty with China. 87. Fisheries disputes. 88. Canadian Fishery treaty adjusted. Lord Sackville incident. 89. Ill feeling with Germany, about Samoa. 89. Government of Japan changed from an Absolute Monarchy to a Constitutional Govern- ment.
Kansas admitted. 63. West Virginia admitted. 64. Nevada admitted.	67. Nebraska admitted. 68. Re-admission of Southern States.	76. Custer massucre. Colorado admitted.	83. Capital of Dakota removed from Yankton to Bismark. General strike of telegraph operators. 89. The two Dakotas, Washington and Montana admitted. Disastrous Flood in Johnstown, Pa. Burning of Seattle Washington.
Southern Confederacy. 61. Mississippi, Alabama, Florida, Georgia, Louisiana, Texas, Virginia, Arkansas, Ten- nessee and North Carolina, secede. Jefferson Davis, president. Battles of Bull Run, Wilson's Creek. Capture of Fort Donelson. Battles of Pea Ridge, Shiloh. Bull Run, Corinth, Freder- icksburg. 63. Chancellorsville. Siege of Vicksburg. 64. Wilderness battles.	Five Forks. of Lee, od of Kirby; d.	70. Fifteenth amendment. 71. Great fire in Chicago. 73. Modoc war. 76. Centennial exhibition. 77. Railroad riots. 79. Resumption of specie payments	81. President Garfield shot, July 2d; died, September 19th. 83. Apaches captured by Gen. Crook. 36. Labor riots. Haymarket Dynae mite massacre, Chiengo, 188, \$1,200,724,463.
Abraham Lincoln, president. Public debt, \$90,580,875. Hannibal Hamlin, vice-president. Attack of Fort Sumter. Scizure of Harper's Ferry and Norfolk. 62. Battle of Antietam. 63. Battle of Gettysburg.	Abraham Lincoln, president. Public debt, \$2,680,647,869 Andrew Johnson, vice-president. April 14, President Lincoln shot. Andrew Johnson, president. Public debt, 1866, \$2,773,236,173.	Ulysses S. Grant, president. Public debt, \$2,588,452,213. 70. Shuyler Colfax, vice-president. Ulysses S. Grant, president. Public debt, \$2,234,482,933. 73. Henry Wilson, vice-president. Rutherford B. Hayes, president. Public debt, \$2,205,301,392. 77. William A. Wheeler, vice-president.	James A. Garfield, president. Chester A. Arthur, vice-president. Chester A. Arthur, president. Public debt, 1832, \$1.08,312,594. Crook. Public debt, 1833, \$1.38,4.71,728. Grover Cleveland, president. Thomas A. Henricks, vice-president. Benjamin Harrison, president. Public debt, Dec. 1, 1834) 36. Labor riot Thomas A. Henricks, vice-president. Public debt, Dec. 1, 1884, \$1,200,724,463 Levi P. Morton, vice-president.
63.	65.	73.	8 8 81.













THE DEPARTMENTS AT WASHINGTON.





THE EXECUTIVE DEPARTMENT.



PROVIDED by the Constitution, the Government of the United States performs its allotted work through three distinct channels, the Executive, the Legislative and the Iudiciary.

The President, whose oath of office, duties and powers are described in the Constitution, holds office for four years. He must be thirty-five years

of age, a native of the United States and a resident of the United States for

fourteen years. His inauguration takes place on the fourth of March next succeeding his election; his salary is \$50,000 a year, payable monthly, and he has the use of the furniture and the other effects in the "White House," a Government building in Washington, where he resides. The President's official household, selected by himself, censists of:

SALARY SALARY. r clerk. 1 secretary, - \$3,250 ı usher, · · 1 ass't secretary, 2,250 ı clerk, . 1,200 9 doorkeepers, e. 1,200 2 clerks, each, 2,000 1 stenographer, 1,800 ı watchman, . ı clerk. · · 1,800 I steward, . 1,800 ı fireman.

The patronage of the President is enormous. The appointments to every branch of public service, made by him, give him a power that would be appalling but that it is balanced by the safeguard of the consent of the Senate.

The office of President is one which has been called by European writers the highest to which humanity can aspire. The chief magistracy of the American Republic is a prize for which every eminent American statesman has struggled, and it is singular in looking back over the history of the country to note how many men peculiarly fitted by their great talents and great prominence for the Presidency have been beaten by unknown men. Two of the greatest Senators in the history of the Union were Daniel Webster and Henry Clay, neither of whom succeeded in winning the crowning honor of a political career. On the other hand, the number of comparatively unknown men who have been chosen by their parties and elected by the people,

The original intention of the Fathers of the Republic is one that the politicians of the country have departed from widely. The electoral system did not contemplate nominations and party organization; it intended that the electors, men chosen by the people of each State as safe men for this important office, should cast about for the most fit man in the Republic for the honor of the Presidency. For this man they were to vote. But under the manner in which the system is worked the electors furnish a clumsy method, often a faulty one, for expressing the direct popular will. No elector would dare to use his own judgment; he is simply chosen on a pledge to vote for a certain candidate chosen for him. In this way the people choose directly the President, and yet, owing to the fact that the electors are never in

number in exact proportion to the population, it frequently happens that, while one candidate has a majority of the popular vote, the other has a majority of the electors and becomes President.

The Presidential residence at Washington is a very handsome pile. It is called the White House from its color. It has been the centre of the fashion and grace of the republican court. There are regular reception days set, when any one who wishes may call upon the President. Upon private reception days admittance is only secured by card. Upon these



THE CAPITOL AT WASHINGTON.

occasions, the gay court costumes of the foreign legations, the military uniforms and the splendid dresses of the ladies form a scene not soon to be forgotten.

The grounds about the White House, taking in as they do the conservatories and nurseries of the Agricultural Department, are very pretty and well kept. The Presidential residence is furnished by the Government for the President.

The City Covernment of Washington.

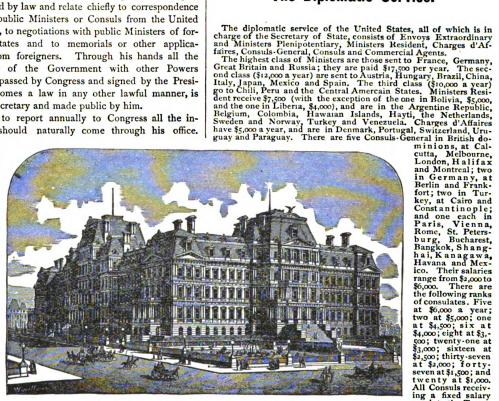
When the District of Columbia was cut off from Maryland and Virginia, and put in possession of the Government, it was decided that the whole territory should be in the hands of the Federal Union alone, so that it would be altogether independent of State influence. As the city of Washington grew up around the Capitol provision had to be made for its municipal government, which was obliged to be peculiar under the circumstances. The President appoints three Commissioners of the District of Columbia, in whose hands lie all of the functions usually performed by mayors and boards of aldermen. The residents of Washington have no votes as there are no elections. All of the city officers are appointed, and the whole machinery of local government is directly in the hands of the President and Congress.



HE duties of the Secretary of this Department are prescribed by law and relate chiefly to correspondence with public Ministers or Consuls from the United States, to negotiations with public Ministers of foreign States and to memorials or other applications from foreigners. Through his hands all the business of the Government with other Powers passes. Any bill passed by Congress and signed by the President, or that becomes a law in any other lawful manner, is received by the Secretary and made public by him.

It is his duty to report annually to Congress all the information that should naturally come through his office.

Any new amendment to the Constitution, any act of Congress that becomes a law, any foreign treaty, postal convention or Congressional joint resolution is sent to the Public Printer by the Secretary of State for legal publication; he must also publish in some newspaper the commercial information he may deem of public importance. Passports when rendered are free of



DEPARTMENTS OF STATE, ARMY AND NAVY.

charge. Copies of records in this Department when applied for are furnished by the Clerk at a cost to applicant of ten cents for every hundred words.

The salaries paid in the Department of State are:

\$8,000 4 clerks, each \$1,600 3 ass't secretaries, each 2 clerks, each 10 clerks, each 3,500 2,500 1,400 I chief clerk, 1,200 I translator. 2 clerks, each 2,100 1,000 4 chiefs of Bureaus, each 2,100 10 clerks, each I engineer, -\$1,000 1,800 11 clerks, each -1,200 I assistant engineer,

With watchmen, firemen, laborers, etc., the total amount is about \$100,000 a year.

The Examiner of Claims, an officer appointed by the Attorney-General, has charge of the legal business of the Department of State. There are a number of Bureaus in the Department, the most important of which is the Consular. Quite a number of interpreters are continually needed in the offices.

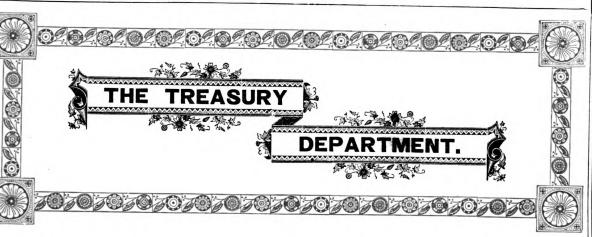
The Diplomatic Service.

\$6,000. There are the following ranks of consulates. Five of consulates. Five at \$6,000 a year; two at \$5,000; one at \$4,500; six at \$4,000; eight at \$3,-500; twenty-one at \$3,000; sixteen at \$3,000; forty-seven at \$1,500; and twenty at \$1,000. All Consuls receiving a fixed salary pay into the Treasury all fees received by virtue of their virtue of their

office. But there are many Consuls and Agents whose only compensation comes from fees. Such officers are usually allowed to go into business.

Secretaries of State.

Thomas Jefferson, Va.	1789	Abel P. Upshur, Va.	184
Edmond Randolph, Va.	1794	John C. Calhoun, S. C.	184
Timothy Pickering, Penn.	1795	James Buchanan, Penn.	184
John Marshall, Va.	1800	John M. Clayton, Del.	1840
James Madison, Va.	1801	Daniel Webster, Mass,	1850
Robert Smith, Md.	1809	Edward Everett, Mass.	1852
James Monroe, Va.	1811	William L. Marcy, N. Y.	1854
John Q. Adams, Mass.	1817	Lewis Cass, Mich.	1857
Henry Clay, Ky.	1825	Jeremiah S. Black, Penn.	1860
Martin Van Buren, N. Y.	1829	William H. Seward, N. Y.	1861
Edward Livingston, La.	1831	Elihu B. Washburn,	1860
Louis McLane, Del.	1833	Hamilton Fish,	1869
John Forsyth, Ga.	1834	William M. Evarts	1877
Daniel Webster, Mass.	1841	James G. Blaine	1881
Hugh S. Legair, S. C. Thomas			1881
James G.	Blaine,	Maine. 1889	



LL of the moneys of the United States, all matters relating to the collection and payment of the accounts of the Government, and, in a word, all of the duties appertaining to the finances of the nation, fall naturally to the Secretary of the Treasury. He

is assisted by a numerous corps, the Treasury Department requiring naturally more clerical detail than any other in the Government. There are two Assistant Secretaries, one having

charge of appointments, public money, revenue marine, loans and currency, engraving and printing, the mints, and the signature of documents; the other attends to customs, special agents, internal revenue and navigation, and the general supervision of accounts.

There are two Comptrollers. The first countersigns warrants, attends to the pay of the diplomatic service, and examines requisitions

and claims. The second has charge of the accounts of the Army, Soldiers' Homes, Pensions, Marine Corps and Navy Yards, Disbursing Agents, and of the Financial Agency of the Government at London.

The Commissioner of Customs examines, revises and passes all accounts concerning duties, tonnage, marine hospitals, fines, penalties and forfeitures under the navigation laws, and approves bonds of customs officers.

The Six Auditors.

There are six Auditors in the Treasury Department, among whom the work is divided as follows:

First Auditor: Customs, Judiciary, Public Debt, Warehouse and Bonded Goods, Miscellaneous Accounts.

Second Auditor: Army Paymaster, Miscellaneous Claims, Indian Affairs, Bounties, Frauds, Book-keeping.

Third Auditor: Book-keeper, Quartermasters, Subsistence and

Engineering, State War Claims, Miscellaneous Collections.

Fourth Auditor: Prize Money, Navy Agents, Paymas. ters.

Fifth Auditor: Diplomatic and Consular division, Internal Revenue. Sixth Auditor: Post-office accounts.

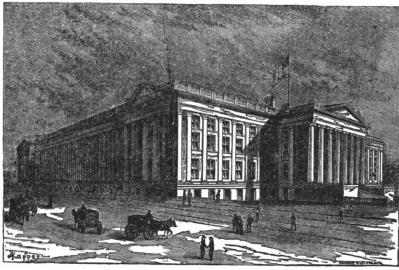


The Treasurer of the United States has custody of all the public money; he pays warrants, issues and redeems

Treasury Notes, redeems National bank notes, pays the interest on the public debt, and

is custodian of the Indian trust funds. The Comptroller of the Currency supervises and controls the National banks throughout the country, under the Secretary of the Treasury.

The Solicitor of the Treasury examines all revenue frauds and oversees the legal measures for their prevention and punishment. All of the legal business of the department goes through his hands, and the secret service operations are directed by him. When required he must give his opinion on any legal question. The Solicitor of the Treasury



UNITED STATES TREASURY BUILDING.



is really an officer of the Department of Justice, as will be seen on another page.

The Commissioner of Internal Revenue makes assessments and

The Commissioner of Internal Revenue makes assessments and apportions taxes. The bureau is divided into seven departments: 1. Appointments. 2. Laws. 3. Accounts. 4. Tobacco. 5. Distilled Spirits. 6. Stamps. 7. Assessments. Special agents are appointed by the Commissioner to watch the manufacture and handling of whisky.

The Superintendent of the Coast Survey has charge of all the surveys of the ocean and coast and the making of maps, charts, etc.

The Bureau of Statistics collects and publishes information in regard to trade and commerce, shipping, imports and exports, emigration, etc. Its reports are published quarterly and distributed gratuitously.

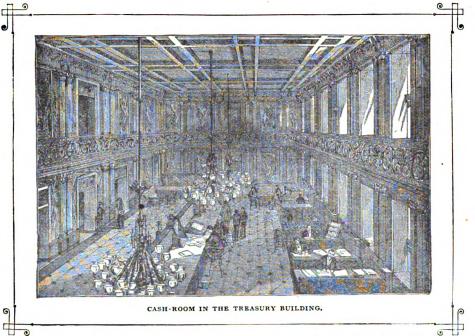
The Mint in Philadelphia is the one to which the Mints at New Orleans, Carson and Denver must send their reports. Each Mint has a superintendent, assayer, teller, refiner, coiner and assistants, and the one at Philadelphia has also an engraver. The Director of the Philadelphia Mint makes an annual report of the minting done in the country.

Quarantine.

The Secretary of the Treasury executes the laws which restrain, stop and govern vessels arriving at United States ports from places afflicted with infectious diseases. The officers of the customs revenue are required to see to the execution of the public health laws of the General Government and of the several States in this regard.

The Light-House Board.

The Light-House Board, which is appointed by the President, is attached to the Treasury Department. It consists of two officers of the Navy of high rank, two officers of the Corps of Engineers and two citizens of high scientific attainments. This Board has general charge of the light-house service of the United States.



The Life-Saving Service.

The life-saving service is divided into seven ocean districts and three lake districts. The various stations are supplied with such apparatus as may, in the judgment of the Secretary of the Treasury, be best adapted to the purpose of each station, such as life-boats, ropes, mortars for sending ropes on board wrecked vessels, contrivances for getting passengers safely on shore, etc. Each district is in charge of a sup-intendent, who possesses the powers and performs the duties of an inspector of the customs for each of the coasts on which stations are established. These districts number seven on the Atlantic coast, and three on the great lakes, and each superintendent receives from the Secretary of the Treasury the proper instructions relative to the duties required of him.

Each station is in charge of a keeper, who is instructed in his duties by the Secretary of the Treasury. At some stations experienced surfmen are engaged to assist in aiding wrecked vessels.

Secretaries of the Treasury.

Alexander Hamilton, N. Y.	1789
Oliver Wolcott, Conn.	1795
Samuel Dexter, Mass.	1800
Albert Gallatin, Penn.	1802
George W. Campbell, Tenn.	1814
Alexander J. Dallas, Penn.	1814
William H. Crawford, Ga.	1817
Richard Rush, Penn.	1825
Samuel D. Ingham, Penn.	1829
Louis McLane, Del.	1831
William J. Duane, Penn.	1833
Roger B. Taney, Md. Appointed during recess; not confirmed by Senate.	1833
Levi Woodbury, N. H.	1834
Thomas Ewing, Ohio.	1841
Walter Forward, Penn.	1841
John C. Spencer, N. Y.	1843
Geo. M. Bible, Ky.	1844
Robert J. Walker, Miss.	1845
	-

0 1	
he Treasury.	
William M. Meredith, Penn.	1849
Thomas Corwin, Ohio.	1850
James Guthrie, Ky.	1853
Howell Cobb, Ga.	1857
Philip F. Thomas, Md.	1860
John A. Dix, N. Y.	1861
Salmon P. Chase, Ohio.	1861
William Pitt Fessenden, Me.	1864
Hugh McCulloch, Ind.	1865
George S. Boutwell.	1870
William A. Richardson.	1873
Benjamin H. Bristow.	1874
Lot M. Morrill.	1876
John Sherman.	1877
William Windom.	1881
Charles J. Folger.	1881
Hugh McCulloch, Ind.	1884
Daniel Manning, N. Y.	1885
Chas. S. Fairchild, N. Y.	1887
W. Windom, Minn.	1889





DEPARTMENT

of War has entire charge. He must communicate to Congress estimates of the appropriations needed for his Department, not only for its internal working, but for the construction of public works and other public service performed under his direction. He must report annually a statement of the appropriations of the preceding year (always counting from the 1st of July), showing how

much was appropriated for each Bureau of the Department, and the balance on hand, together with estimates of the amounts necessary for the ensuing year. He will submit to Congress reports of surveys of rivers and harbors ordered by Congress.

He furnishes an abstract of the returns of the Adjutants-General of the militia of the States.

These annual reports are made at the beginning of each regular session and cover all the transactions of the Department during the year. The Department is divided into ten branches, governed by the following officers: The Adjutant-General, Quartermaster-General, Paymaster-General, Commissary-General, Surgeon-General, Chief of Engineers, Chief of Ordnance, Chief Signal Officer, the Judge Advocate-General and the Superintendent of the Military Academy at West Point.

The annual salaries paid in this Department are

The annual salaries [oaid in ti	ns Department are:
Secretary,	\$8,000	3 engineers, 3,800
1 chief clerk,	2,750	65 messengers, - 720 46,500
ı disbursing elerk, -	2,000	50 laborers, - 660 33,000
7 Bureau chiefs, e. \$2,000	14,000	8 char-women - 180 1,440
52 clerks, each 1,800	93,000	125 physicians, - 1,200 150,000
52 clerks, each 1,600	83,200	185 hospital stewards 360 66,600
95 clerks, each 1,400	133,000	50 paymaster's clerks 1,200 60,000
390 clerks, each 1,200	468,000	90 Nat. Cem. keepers 800 72,000
191 clerks, each 1,000	191,000	450 weather observers 720 324,000
32 clerks, each 900	28,S00	1,000 employes at ar-
1 draughtsman,	1,800	mories and other business of Dep't., 800 800,000
1 anatomist,	1,600	business of Dep t., 800 800,000
8 printers,	8,800	\$2,503,500

With rations, quarters and fuel in many cases, the expense of the Department borders on \$3,000,000 annually.

The Bureaus of the War Department.

THE ADJUTANT-GENERAL'S OFFICE. From this office are issued all orders with regard to the movements of the army. All records of individuals in the army from the privates to the officer of the highest rank may be found in this office. All commissions, promotions, charges and discharges, come through this Bureau. In one word, the Adjutant-General is the instrument by which the Executive communicates with the army.

THE QUARTERMASTER-GENERAL'S OFFICE. This Bureau has charge of the purchasing and distributing of all supplies (except subsistence) needed by the army, to furnish transportation for

soldiers, military stores and supplies, and to pay all expenses of the military service not provided for in other Bureaus.

THE COMMISSARY-GENERAL'S OFFICE. The business of this office consists in the purchase and distribution of subsistence and supplies for the army.

THE PAYMASTER-GENERAL'S OFFICE. Payments to the army are made through this office. Arrears of pay shall never exceed two months.

THE SURGEON-GENERAL'S OFFICE. This Bureau has charge of the surgical and medical department of the army, the purchase and distribution of hospital and medical supplies. It has authority in sanitary matters, such as supervising the cooking done in the army, and the preparation of rations for the enlisted men.

THE OFFICE OF THE CHIEF OF ENGINEERS. This Bureau has charge of the various fortifications, and provides for the surveys of rivers and harbors. All matters connected with skilled labor, such as building, bridging, excavation, mining, etc., in the military service, belong to this Bureau.

OFFICE OF THE CHIEF OF ORDNANCE. This office has charge of all skilled labor necessary in the preparation and care of the ordnance and ordnance supplies. It purchases, inspects and controls the construction, movement and storing of all the heavy armament in the service.

THE OFFICE OF MILITARY JUSTICE. This office is under the charge of the Judge Advocate-General. The proceedings of all Courts-Martial, Courts of Inquiry and Military Commissions are received, revised and recorded in this office. All matters connected with the administration of justice in the army are the peculiar province of this Bureau.

THE SIGNAL OFFICE. The Signal Service, which has proved itself of incalculable benefit to the country, is an adjunct of the War Department and is managed by the officers of the Army detailed by the Secretary of War.

THE MILITARY ACADEMY. The military school at West Point is the last of the Bureaus of the War Department. It is a school for the training of the officers of the army, and ranks on its own merits as one of the best colleges in the country.

The Cadet Corps.

The corps of cadets consist of one from each Congressional District of the United States, one from each State, one from the District of Columbia, and ten from the United States at large, who are appointed by the President. The cadets must be between seventeen and twenty-two years old when admitted; they must be well versed in reading, writing, arithmetic, grammar, geography and history, particularly of the United States. The course at the Academy lasts four years, and on graduation the cadets are commissioned as second lieutenants in the army.



50 majors,

the history of the American Army. Organized by George Washington and commanded ever since by eminent chieftains, it has carried the Star-spangled Banner over hundreds of stricken fields of battle, and never without honor. It has fought through four great wars and innumerable Indian revolts. Again and again has its valor been proved, until to-day, one of the smallest, the American Army is considered to be one of the most effective in the world. In time of peace its work does not cease. All along the Western frontier the scattered forces have all that they can do holding the savage Indian tribes to good behavior, Always fighting at tremendous odds, the service performed by the soldiers in the far West can only be described by the word "remarkable." The regular army is the skeleton upon which in time of war the forces of the Republic form. It consists of about 25,000. On a war footing our army could now, 1883, be pushed up to over three millions of men under arms. Towards the end of the civil war the total of the Federal and Confederate service was much larger than that figure. On the resignation of General U. S. Grant, who became President in 1868, General William Tecumseh Sherman, a soldier who fought his way to the front in the time that tried men's souls, was assigned to the highest rank. General Sherman retired from active service, however, in 1883, and General Phil, Sheridan is now at the head of the troops. The various ranks in the army, with their pay, will be found in the tables following:

VERY citizen of this Republic may well be proud of

Pay-Roll of the United States Army.

ı general,	\$13,500-6 aides-de-camp, each		\$3,500
I lieutenant-general,	11,000-2 aides-de-camp, each	-	3,000
3 major-generals, each	7,500-S aides-de-camp, \$200	addit	tion to
	line pay.		

6 brigadier-generals, each 5,500-13 aides-de-camp, \$150 addition to line pay.

CAVALRY.

to colonels, each		\$3,500	10 reg't quartermaster	s, ea. \$1,800
10 lieutenant-colone	els, ea	ch 3,000	120 1st lieutenants, eac	h 1,600
30 majors, each		2,500	120 2d lieutenants eac	h 1,500
120 captains, each		2,000	2 chaplains, ear	- 1,500
10 adjutants, each		1,500		

ARTILLERY.

5 colonels, each .		\$3,500	5 adjutants, each -	\$1,800
5 lieutenant-colonels,	each	3,000	5 reg't quarter-masters, ea.	1,800
15 majors, each .			120 1st lieutenants, each	1,600
60 captains, each .		2,000	65 2d lieutenants, each,	1,500

INFANTRY.

	eg't quartermasters, e. \$1,800	
	st lieutenants, each 1,500	
	d lieutenants, each 1,400	
250 captains, each - 1,500 2 ch	aplains, 1,500	
25 adjutants, each - 1,800		
DEPARTMENTAL S	SERVICE.	
8 brigadier-generals, each \$5,500 150 1	najors, each - \$2,500	
12 colonels, each - 3,300 127	captains, each - 2,000	
33 lieutenant-colonels, each 3,000 76 15	st lieutenants, each 1,600	
ENGINEER CO	RPS.	
ı brigadier-general, • \$5,500 24 m	ajors, each • \$2,500	
6 colonels, each • 3,500 30 c	aptains, each · · 1,800	
12 lieutenant-colonels, each 3,000		
SIGNAL OFF	ICE.	
1 colonel, - \$3,500 32 li	eutenants, each - \$1,500	
RETIRED LI	ST.	
5 major-generals, 131	captains,	
18 brigadier-generals - 72 15	st lieutenants,	
59 colonels, • • • 15 20	lieutenants,	
34 lieutenant-colonels, - 8 ch	aplains,	

Enlisted Men.

NON-COMMISSIONED OFFICERS.

The following enlisted men are paid these sums monthly during their first terms of enlistment, with some modifications prescribed by law: Sergeant-majors of cavalry, artillery and infantry, \$23 each; quartermaster-sergeants of cavalry, artillery and infantry, \$23 each; chief trumpeters of cavalry, \$22; principal musicians of artillery and infantry, \$22; chief musicians of regiments, \$60, and the allowances of a quartermaster-sergeant; saddler sergeants of cavalry, \$22; first sergeants of cavalry, artillery and infantry, \$22; sergeants of cavalry, artillery and infantry, \$17; corporals of cavalry and light artillery, \$15; corporals of artillery and infantry, \$15; saddlers of cavalry, \$15; blacksmiths and farriers of cavalry, \$15; trumpeters of cavalry, \$13; musicians of artillery and infantry, \$13; privates of cavalry, artillery and infantry, \$13; sergeant-majors of engineers, \$36; quartermaster-sergeants of engineers, \$36; sergeants of engineers and ordnance, \$34; corporals of engineers and ordnance, \$20; musicians of engineers, \$13; privates (first class) of engineers and ordnance, \$17; privates (second class) of engineers and ordnance, \$13. To these rates of pay \$1 a month is added for the third year of enlistment, \$1 for the fourth year, and one more for the fifth year, making \$3 a month increase for the last year of enlistment; but this increase is "retained pay," and is not given to the soldier until his term is ended, and it is forfeited if he misbehaves himself before he receives his discharge. Occasional extra services by soldiers and non-commissioned officers also entitle them to additional pay.

The Army During the Civil War.

The following table shows the dates of the President's proclamations for men, the number of men called for and the number secured.

DATE OF PRESIDENT'S PROCLAMA- TION.	NO. CALLED FOR.	PERIOD OF SERVICE.	
April 15, 1861 May 3, 1861 July 22 and 25, 1861 May and June, 1862. July 2, 1862. June 15, 1863. October 17, 1863. February 1, 1864. March 14, 1864. April 23, 1864. July 18, 1864. July 18, 1864.	\$2,748 } 500,000 } 300,000 100,000 300,000 200,000 200,000 85,000	3 months. 3 years. 3 months. 9 months. 6 months. 2 years. 1 years. 1 years. 1, 2, 3 years. 1, 2, 3 years.	
Total	2,942,748		2,690,401

The Strength of the Federal Army.

DATE,	ON DUTY.	ABSENT.	TOTAL.
January 1st, 1861	14,663	1,704	16,367 186 751
July 1st, 1861 January 1st, 1862 January 1st, 1863.	527,204	3,163 48,714	575,917
January 1st, 1864	611,250	219,389 249,487 338,536	918,.81 860,737
January 1st, 1865	620,024	338,536	959,460 1,000,516

Volunteers in the War.

The following table shows the number of men furnished to the Federal army by each State in the Union.

the rederal army by	each State	in the Onion.	
New York, .	445,959 1	Rhode Island, -	23,248
Pennsylvania, .	338,155	Kansas, • •	20,095
Ohio,	310,654	District of Columbia,	16,534
Illinois,	258,162	California, -	15,725
Indiana, -	194,363	Delaware, • •	12,265
Massachusetts, -	146,467	Arkansas, -	8,289
Missouri, .	108,162	New Mexico •	6,561
Wisconsin	91,031	Louisiana, -	5,224
Michigan, .	88,111	Colorado,	4,903
Iowa,	75,793	Indian Nation, -	3,530
New Jersey, -	75,315	Nebraska, • •	3,157
Kentucky,	75,275	North Carolina,	3,150
Maine,	69,73S	Alabama,	2,576
Connecticut,	55,755	Texas, · ·	1,965
Maryland,	46,053	Oregon, - •	1,810
New Hampshire,	33,913	Nevada, •	1,080
Vermont, .	33,272	Washington Territory,	964
West Virginia .	32,003	Mississippi, •	545
Tennessee, .	31,092	Dakota Territory,	206
Minnesota, · ·	24,002	1	

The Bivouac of the Dead.

There were killed in action, or died of wounds in the Civil war, commissioned officers, 5,221; enlisted men, 90,868. Died from disease

or accident, commissioned officers, 2,321; enlisted men, 182,329; making a total loss of 289,739. Deaths which occurred after the men left the army are not included in these figures.

The Strength of the World's Armies.

Argentine Republic 2,400,000 8,227 304,000 \$ 3,374,518 \$ 1.46 10.5 Austria-Hungary 7,30407 289,100 1,125,833 53,336,075 1,441 87.3 Belgium 5,470,678 40,383 165,877 8,776,429 1.60 15.7	204.000 \$ 2 274		.	Population	
Bolivia 2,050,000 3,021 1,136,016 54 25,0 Brazil 11,105,291 15,304 32,000 8,650,000 78 14.5 Canada 4,352,050 2,000 700,152 777,699 17 3.1 Chili 2,400,396 3,57,3 50,000	105,877 8,776 1,126 32,000 8,690 700,152 777	1,125,8 165,8 32,0 700,1	7 289,190 8 40,38 9 3,02 1 15,30 0 2,00	37,739,407 5,476,668 2,080,000 11,108,291 4,352,080	Austria-Hungary. Belgium Bolivia Brazil Canada
China 434,626,00: 300,000 1,000,000 0 Colombia 2,774,000 3,000 30,740 9\$2,432 .35 11.3 Denmark 1,969,454 35,727 49,054 2,539,027 1.19 20.0 Egypt 17,419,980 15,000 43,000 2,10\$,216 12 20.8 France 35,905,788 503,764 1,753,164 114,279,761 3.09 5.3 Germany 45,194,172 445,402 1,492,104 9\$,330,429 2.17 65.3 Great Britain 35,246,562 131,636 577,906 7,901,500 2.12 18.0	000,000 30,740 49,054 2,539 43,000 2,108 753,164 114,279 492,104 98,330	1,000,0 30,7 49,0 43,6 1,753,1 1,492,1	300,00 3,00 4 35,72 0 15,00 8 502,76 2 445,40	434,626,00: 2,774,000 1,969,454 17,419,980 36,905,788 45,194,172	ChinaColombiaDenmarkEgyptFranceGermany
Greece	35,000 2,264 350,000 84,481 736,502 42,947 51,721 8,151	35,0 350,0 736,5 51,7	5 12,11 0 189,59 0 214,66 4 30,77 3 37 1 24,83	1,679,775 252,541,210 28,209,620 34,335,404 209,673 9,389,461	Greece
Netherlands 3591/887 65,113 163,108 8,397/600 2.10 16.8 Norway 1,806,900 18,700 241,600 1,626,750 90 13,6 Persia 7,000,000 57,600	241,600 1,626 3,392 40,000 78,024 4,373 200,000 5,222	241,6 40,6 78,6 200,6	0 18,75 0 57,60 0 4,67 1 34,87 0 19,81	1,\$06,900 7,000,000 3,050,000 4,348,551 5,376,000	Norway Persia Peru Portugal Roumania
Servia	265,000 1,765 450,000 24,802 202,783 4,649 210,495 2,352 610,200 19,642 ,165,000 40,466	265,0 450,0 202,7 210,4 610,2	50,00 3 90,00 3 41,28 7 117,50 2 350,00 3 25,74	1,589,650 16,333,293 4,531,863 2,831,787 8,866,532 50,155,783	Spain

Secretaries of War.

Henry Knox, Mass.	1789
Timothy Pickering, Penn.	1795
James McHenry, Md.	1796
Samuel Dexter, Mass.	1800
Roger Griswold, Conn.	1801
Henry Dearborn, Mass.	1801
William Eustis, Mass.	1809
John Armstrong, N. Y.	1813
James Monroe, Va.	1814
William H. Crawford, Ga.	1815
John C. Calhoun, S. C.	1817
James Barbour, Va.	1825
Peter B. Porter, N. Y.	1828
John H. Eaton, Tenn.	1829
Lewis Cass, Ohio.	1831
Joel R. Poinsett, S. C.	1837
John Bell, Tenn.	1841
John C. Spencer, N. Y.	1841
James M. Porter, Penn. Negatived by Senate.	1843

William Wilkins, Penn.	• 1844
William L. Marcy, N. Y.	1849
George W. Crawfod, Ga.	1849
Charles L. Conrad, La.	1850
Jefferson Davis, Miss.	1851
John B. Floyd, Va.	1857
Joseph Holt, Ky.	1861
Simon Cameron, Penn.	1861
Edwin M. Stanton, Penn.	1861
Ulysses S. Grant.	1367
Lorenzo Thomas.	1868
John M. Schofield.	1869
John A. Rawlins.	1860
William W. Belknap.	186
Alphonso Taft.	1370
James D. Cameron.	1876
George W. McCrary.	1877
Alexander Ramsey.	1870
Robert T. Lincoln.	188
William C. Endicott, Mass.	188
Redfield Proctor, Vermont.	1559

Secretaries of the Navy.

Benjamin Stoddard, Md.	1799
Robert Smith, Md.	1802
Iacob Crowninshield, Mass.	1805
Paul Hamilton, S. C.	1809
William Jones, Penn.	1813
B. W. Crowninshield, Mass.	1314
Smith Thompson, N. Y.	1818
Samuel L. Southard, N. I.	1823
John Branch, N. C.	1829

Levi Woodbury, N. H.	18
Mahlon Dickerson, N. J.	18
James K. Paulding, N. Y.	18
George E. Badger, N. C.	18
Abel P. Upshur, Va.	18
David Henshaw, Mass. Negatived by Senate.	} 18
Thomas W. Gilmer, Va.	´ 18
John Y. Mason, Va.	18
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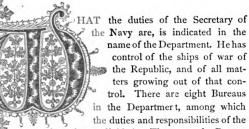
George Bancroft, Mass. John Y. Mason, Va.
William B. Preston, Va.
William A. Graham, N. C.
John P. Kennedy, Md.
James C. Dobbin, N. C.
Isaac Toncey, Conn,
Gideon Welles, Conn.
Adolph E. Boui.

1845	George M. Robeson.	
1846	Richard W. Thompson.	
1810	Nathan Goff, Ir.	
1850	William H. Hunt.	
1852	Wm. E. Chandler, N. H.	
1853	Wm. C. Whitney, N. Y.	
1857	B. F. Tracy, N. Y.	- 1



3 majors,

3 majors, .



naval work are divided. These are the Bureau of Yards and Docks, presided over by an officer selected from the navy, not below the grade of Commander; the Bureau of Equipment and Recruiting, presided over by a similar officer; the Bureau of Navigation, similarly officered; a Bureau of Ordnance, a Bureau of Construction and Repair follow in order, the chief of each being a naval officer of rank; the Bureau of Steam Engineering is presided over by one of the chief engineers of the navy; the Bureau of Provisions and Clothing,

at the head of which is one of the paymasters of the navy, of not less than ten years' standing; and lastly the Bureau of Medicine and Surgery, presided over by one of the surgeons of the navy. Each of these chiefs is appointed by the President; they hold office four years and receive only the salary of their rank in the navy. The Secretary in common with the other Cabinet officers gets \$8,000 per year. The pay-roll then goes on:

THE LINE AT SEA.

1 admiral,				\$13,000	280 lieutenants,	\$2,400 8	\$2,600
I vice-admiral,				9,000	100 masters, .	1,800	2,000
11 rear-admirals	,			6,000	100 ensigns,	1,200	1,400
25 commodores,				5,000	40 midshipmen,		1,000
50 captains,				4,500	334 cadet midship's	n, 500	950
90 commanders,				3,500	42 mates, -		900
So lieut - comma	nd	ers.	2.80	00 & 2 000			

STAFF

Mrr.		
1 100 passed ass't eng's \$2,000 & 2,200		
100 ass't engineers, 1,700 1,900		
24 chaplains, - 2,500 2,800		
11 naval constructors, 3,200 4,200		
5 ass't constructors, 2,000 2,600		
12 professors of math-		
ematics, - 2,400 3,500		
9 civil engineers, 2,400 3,500		
Cadet engineers, 500 1,000		
RINE CORPS.		

1 colonel-con	mmandan	t,	\$3,500	18 captains, -		\$1,800
I colonel,			3,500	30 1st lieutenants,		1,500
2 lieutenant-	colonels,		3,000	20 2d lieutenants, -		1,400
1 major,			2,500			

MARINE CORPS STAFF. \$2,500 | 2 captains,

	RET	IRE	D LIST.			
ı brigadier-general,			4 captains, -			
I lieutenant-colonel			2 1st lieutenants.			

Attached to the Bureau of Navigation is a hydrographic office which provides charts, sailing directions and manuals for the use of the naval and merchant marine. The Nautical Almanac is prepared at the Naval Observatory.

. | 3 2d lieutenants,

Rank in the Army and Navy.

The relative rank in the two arms of the service runs as fol-

The admiral with the general, the vice-admiral with the lieutenant-general, rear-admirals with major-generals, commodores with brigadier-generals, captains with colonels, commanders with lieutenant-colonels, lieutenant-commanders with majors, lieutenants with captains, masters with 1st lieutenants, and ensigns with 2d lieutenants.

THE AMERICAN PAVY.

HE popular thing of late years, among papers and people inclined to be flippant, has been to make inquiries regarding the whereabouts of the United States navy. No one in authority ever took the trouble to answer the questions springing from so many anonymous sources, and the idea gradually settled into a conviction that as a nation we had no navy, other than a sort of a dress-parade affair, illy able to do battle or protect our water-front in case of invasion by foreign powers which might at some time become hostile. Others, who recognized the fact that the white-winged messenger of Peace hovered over the land, questioned the necessity for a navy. Possible differences, it was argued, were to be settled by arbitration, and the maintenance of a naval fleet for home protection was a needless extravagance and one the government was

the government was hardly in position to afford. But the theory that it is best, in time of peace, to prepare for war, gradually drew into itself more drew into itself more supporters in official life than any other argument advanced, and resulted in the taking of some active steps looking to the decided betterment of naval affairs. The decision at the seat of government was that the claims of the navy to consideration and for its maintenance in a state becoming its for its maintenance in a state becoming its usefulness and dignity rested not only upon its power to protect the commerce and

its power to protect the commerce and citizen so of the nation in time of peace, or even when they might become imperiled amid the sudden ebullitions of hostility which occasionally burst forth in countries with which we are on terms of amity, but rest also upen the most sacred traditions of the Republic. As a protective measure, however, a navy has not been necessary for years. At rare intervals the services of a man-of-war, plying in distant waters, are brought into requisition to redress or prevent a fancied indignity offered an American citizen by some effete monarchy; but in a general way our "relations with foreign powers," in the stereotyped language of Mrs. Victoria in her message to my lords and gentlemen, have for so many years been of a friendly and peaceable character that "invasion" has been a contingency so remote as

sion" has been a contingency so remote as to be hardly entitled to serious consideration. The government, however, since 1881 has been far from idle in putting the navy of the United States on a footing that will make it the pride of every good citzen instead of a mark for ridicule, and second only in power to that of Great ower to that of Great

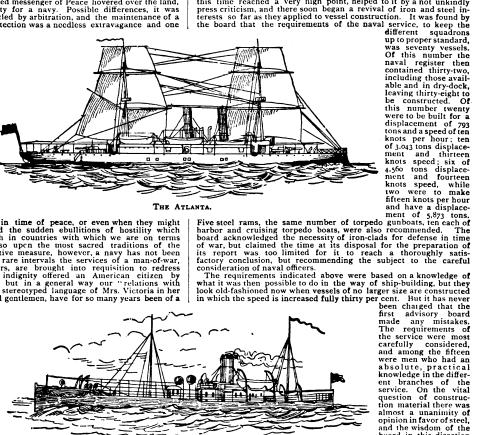
power to that of Great
Britain.

It will be remembered
that the decade between
1870 and 1880 was
marked by the most
masterly inactivity in government ship-yards, and all this time grim
decay was making a hearty meal on everything that had a hull. With
the exception of a couple of monitors and torpedo boats, built in an
experimental way, the entire naval fleet was comprised of wooden
hulls, and at the time mentioned (1880) many were too far gone for
repairs; others were fast going in the same direction. This was recognized by the then Secretary of the Navy, the late Hon. William H.
Hunt, and it was underhis direction in 1881 that the first advisory board
was formed for the purpose of reporting upon the needs of the service,
which they did to Congress, setting forth the fact that if it became
necessary to protect American life or property the navy could make
but a sorry attempt at it, and were wholly unable to make that display
abroad which tended to inspire respect. The president of this

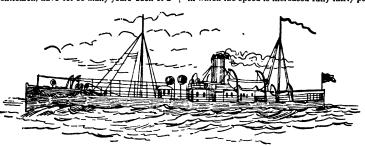
advisory board was Rear-Admiral John Rogers, and associated with him were fifteen officers in the regular service representing its diferent branches, all of them of recognized ability and experience.

To them it was left to determine the number of new vessels that should immediately be built, their class, size, and displacement, the material of and form in which they should be constructed, kind and size of engines and other machinery, ordnance and armament necessary in each, equipment and rigging, internal arrangement, and probable cost of vessel when ready for service. The board began its duties in June, 1881, and in November of the same year made its report.

Public interest in the general question of an American navy had by this time reached a very high point, helped to it by a not unkindly press criticism, and there soon began a revival of iron and steel interests so far as they applied to vessel construction. It was found by the board that the requirements of the naval service, to keep the different squadrons



almost a unanimity of opinion in favor of steel, and the wisdom of the board in this direction has since been most highly commended. The decision was that



steel should be used for vessels, guns and machinery, and that more than anything else gave the impetus to this industry which has resulted in the home production of a material recognized everywhere as of the very highest standard.

In a paper on the subject read before the United States Normal Institute, Lieutenant-Commander Eaton, late steel inspector of the new critisers had this to save.

stitute, Lieutenant-Commander Eaton, late steet inspection the new cruisers, had this to say:

"There can be no shadow of doubt that the navy is now obtaining for its latest additions a material superior in every good quality to any other ever used in any ship. I make no exception whatever. It is a subject of congratulation that from the advisory board of 1883 to that present day the navy has taxed the resources of the steel-makers to produce a quality of metal superior to their best. The requirements

In 1882 a second advisory board was formed, and, aided by the intelligent report of the first board, were soon ready with specifications for the construction of four cruisers, named least the Chieses Bee

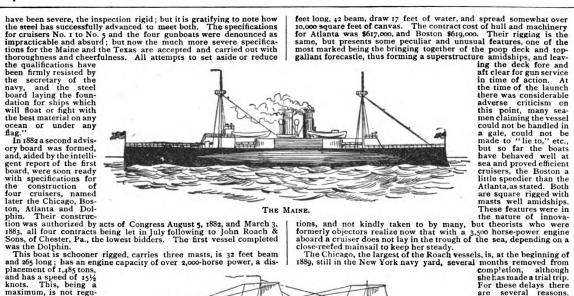
non. When launched she was assigned to the north Atlantic squadron, but in '87 was changed to the Pacific and made a flagship, for which service her ample cabin room makes her peculiarly fitted.

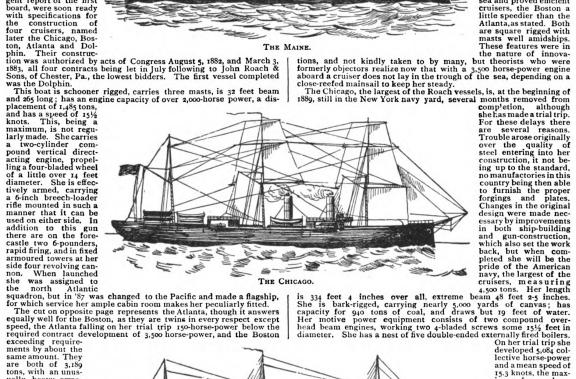
The cut on opposite page represents the Atlanta, though it answers equally well for the Boston, as they are twins in every respect except speed, the Atlanta falling on her trial trip 150-horse-power below the required contract development of 3,500 horse-power, and the Boston exceeding requirements by about the same amount. They are both of 3,189 tons, with an unusually heavy arma-

ually heavy arma-ment for their class of men-of-war, con-sisting of one 8-inch breech-loading gun, fring a gen-pound fring a 250-pound projectile, mounted in barbette just for-ward of the super-structure on the port side, and another of the same

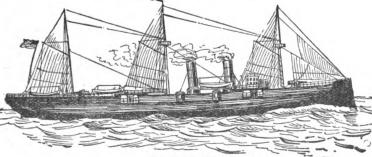
another of the same size, also in barbette, aft on the starboard side, and six 6-inch guns inside the super-structure; also a secondary battery of two 6-pounder rapid-firing guns in broadside ports, two 3-pounder rapid-firing guns, and two 47-mm. revolving cannons in towers, two 1-pounders on top of starboard forward and port after tower, a 37-mm. revolving gun in each top, and two Gatlings. The machinery consists of a three-cylinder compound horizontal back-acting engine. There are eight horizontal return tubular boilers, and a coal capacity of about 500 tons. A speed of sixteen knots has been made under favorable circumstances. The protective plating over engines and boilers is 1½ inches in thickness. These vessels are 283

feet long, 42 beam, draw 17 feet of water, and spread somewhat over 10,000 square feet of canvas. The contract cost of hull and machinery for Atlanta was \$617,000, and Boston \$619,000. Their rigging is the same, but presents some peculiar and unusual features, one of the most marked being the bringing together of the poop deck and top-gallant forecastle, thus forming a superstructure amidships, and leaving the deck fore and aft clear for gun service in time of action. At the time of the launch there was considerable









chicago. Thesefour 8-inch cannon
spar deck, built out from the ship's side, stand twenty-four and onehalf feet above the water line, and command the entire horizon. In
the broadside ports on the gun deck are six 6-inch guns and also a 6inch gun on each bow. In the after portion of the cabin there are
two 5-inch guns. Her secondary battery consists of two Gatlings, two
6-pounders, two 1-pounders, two 47-mm. and two 37-mm. revolving
cannon. She will be manned by a crew of 300. Her steering apparatus is considerably below water line, protected by a deck one
and one-half inches thick, worked well over the machinery.

It was not until March, 1885, that Congress again authorized the construction of more vessels, the contracts this time going to Messrs. Cramp of Philadelphia, who, in April, 1887, turned out the gunboat Yorktown and the dynamite cruiser Vesuvius. Competition for these contracts was very close, the administration having advanced ideas, encouraged them by offering premiums for the best plans, irrespective of nationality of the designer. This stimulated a very healthy competition, the government being decidedly the gainer in that American ship-builders were forced to greater efforts by reason of foreign competition. The contracts were let on a better business basis than formerly, in that there were limitations as to time, penalty clauses, etc. On the other hand there were premiums for excess of speed above requirements. This, as much as anything, has tended to do away with a reliance of sails and throw more dependence on steam-power. The advantage in absence of spars and rigging is considered very great. Another marked advantage gained by making it an object for skilled interests to compete for American ship-building

Another marked advantage gained by making it an object for skilled interests to compete for American ship-building has been the gradual increase in speed attained, the improved arrangement of battery, rig machinery, and the doing away with useless spars and singing.

and one on either side of her central section, all fitted with steel shields to protect the crew. As a secondary battery she carries five rapid-fire guns, two Hotchkiss revolving cannon, one Gatling, and eight torpedo tubes. She is propelled by twin screws. The contract price of this vessel, including hull and machinery, was \$445,000. Twelve months after the letting of contracts were allowed in which to build her, but departures from original plans and delays in getting proper material for construction purposes made it necessary to extend this limit somewhat. limit somewhat.

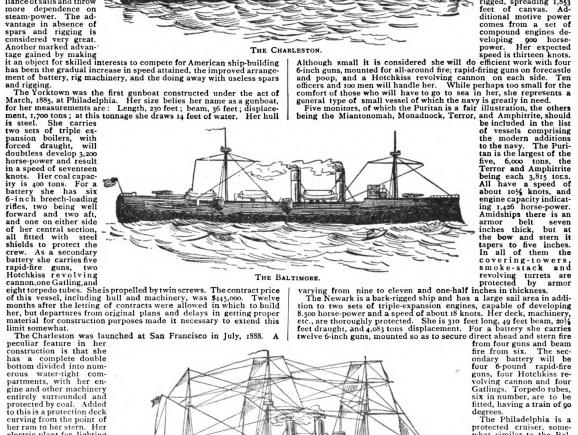
Ilmit somewhat.

The Charleston was launched at San Francisco in July, 1888.
peculiar feature in her
construction is that she
has a complete double
bottom divided into num-

ment, 315 feet length, 48½ feet beam, drawing 19½ feet mean. Her horizontal, triple-expansion engines are, like the Charleston's, protected. In addition to a regular armament of four 8-inch guns on the poop and forecastle, on sponsoned platforms, and six 6-inch guns on the spar deck, with six Hotchkiss and four Gatlings, she will have five torpedo tubes, firing ahead, aft and sides, the bow tube training at an angle of 43 degrees. She carries but two masts, with fore-and-aft sail, the masts fitted, like those on the Charleston, with military tops. Her maximum speed over a measured mile is to be twenty knots with forced draught (blower), and seventeen knots with natural draught.

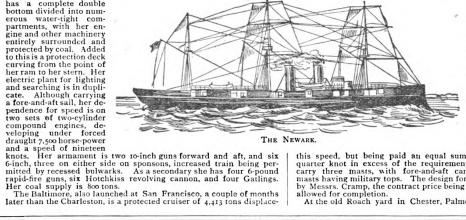
The Petrel is a Baltimore boat, launched by

The Petrel is a Baltimore boat, launched by Cramp, and is one of the smallest yet conrustcted, being only 175 feet in length, 31 feet beam, displacement 870 tons, and drawing 11 feet 7 inches of water. She is barkentine rigged, spreading 1,853 feet of canvas. Additional motive power comes from a set of compound engines de-



THE CHARLESTON.

degrees. The Philadelphia is a The Philadelphia is a protected cruiser, somewhat similar to the Baltimore, carrying twelve 6-inch guns, two on the forecastle, two on the poop, and two on either broadside. Her contract speed is nineteen knots, her builders forfeiting \$50,000 for each quarter of a knot she falls below as a premium for every



this speed, but being paid an equal sum as a premium for every quarter knot in excess of the requirement. As to rigging, she will carry three masts, with fore-and-aft canvas, the fore and main masts having military tops. The design for hull and engine was made by Messrs. Cramp, the contract price being \$1,350,000, with two years allowed for completion.

At the old Roach yard in Chester, Palmer & Co. are building the

Concord and Bennington, gunboats on the general plan of the Yorktown. The keels were laid in 1888. On these boats the government pays \$100 for each horse-power in excess of the amount contracted for, there being a forfeit of exactly reverse terms. Exclusive of armament they will cost \$400,000 each. The agreement is that they shall be completed three years from November 15, 1887, at which time the contract was signed.

pays \$100 for each horse-power in excess of the amount contracted for, there being a forfeit of exactly reverse terms. Exclusive of armament they will cost \$4,90,000 each. The agreement is that they shall be completed three years from November 15, 1887, at which time the contract was signed.

The battle-ship Texas is the largest yet attempted in the Norfolk yards, and is to be constructed after plans furnished by Mr. W. John, though they are subject to slight modification. Her displacement with 950 tons of coal aboard is 6,750 tons. Her length, 200 feet; extreme beam, 51 feet 1 inch. She will have a double bottom, watertight compartments, complete electric outfit, and, exclusive of armament, will cost \$2,376,000.

Her main battery will consist of two 12-inch guns in turrets en echelon—the port one forward and the starboard aft—the turrets having twelve inches of steel armor. Her six 6-inch guns, which complete the main battery, are mounted, two each side of the lower deck, in sponsons—one forward on the upper deck, and four launching torpedo tubes. The estimated speed is seventeen knots; indicated horse-power, 8.600 with forced draught. She has twin screw triple expansion engines, with 39-inch stroke. She carries a water-line belt of 12-inch steel armor, protecting magazines, engines and boilers, with an armored redoubt running across the main deck, protecting the bases of the turrets and their machinery. A protective deck 3 inches in thickness, and heavy coal protection, are intended to further secure her vitals against the enemy's projectiles.

The Maine represents an outlay of \$2,500,000, or about \$100,000 more than the Texas. She is bark-rigged, carrying 7,135 feet of canvas, besides an engine capacity of 8,750 horse-power, from which a speed of 17 knots will carry her 7,000 miles. She is 310 feet in length, 57 feet beam, 6,648 tons displacement, and draws 21½ feet of water. Her armament is four 10-inch guns in pairs in the two turrets placed "en echelon" on the main deck, the forward turret in this case be

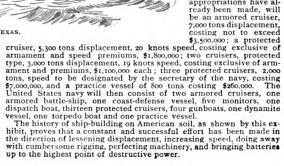
four 6-pounders and four 3-pounders, rapid-fire guns, 13 revolving cannon and four Gat-lings, with seven torpedo tubes. Her twin screws are worked by two triple expansion engines in separate compartments. A feature of the Maine is her steel protection. This consists of an armor belt 180 feet long, having a thickness of 11 inches to a depth of one foot below the water line. Athwart ship there is a bulkhead six inches thick, as are also loading tubes, machinery, etc.

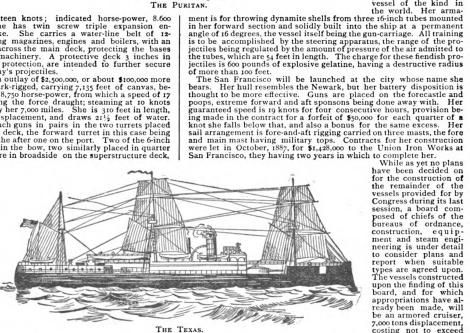
Owing to the elastic nature of the proposals on this vessel, bidders being allowed to submit figures on what they consider more suitable than that proposed by the government, it is expected she will, when finished, some three years hence, be without an equal in any service for the work she is intended to perform, that of coast defense. Her entire material is to be American production. Some novel features are expressed in the plans, particularly in the way of armament. The largest caliber gun yet recommended by the ordnance bureau, a 16-inch 110-ton gun, will be mounted forward, while aft she will carry a 12-inch 46-ton. In the bow there will be a huge 16-inch dynamite tube, and judiciously distributed for effective service fifteen rapid-fire guns of various caliber. In the 110-ton gun the projectile will weight 2,000 pounds, requiring a powder charge of 1,000 pounds. The smaller gun, the 46-ton, will carry a projectile of 850 pounds, using a charge of

she will be one of the heaviest armed vessels in the world, and in conjunction with submarine mines and shore batteries will render it almost impossible for an enemy's vessels to enter the harbor in which she is stationed. She has one military mast, no sail power being used, and carries machine guns and a powerful search light in the top. Her duplicate electrical fitting-steering gear and other arrangements will be of the most approved patterns. She is to be of the low free-board monitor type, and of sufficiently! light draught to enable her to enter all our principal ports. She will also be fitted for ramming, having great speed, stability and handiness. A belt of steel armor 16 inches thick protects her hull. Magazines, machinery, etc., are subject to additional protection. The length of this vessel will be 250 feet, beam 59 feet, draught 14 feet. Vertical and inverted triple-expansion engines generate a horse-power estimated at 5,400.

The dynamite cruiser Vesuvius is a veritable

The dynamite cruiser Vesuvius is a veritable dealer of death and destruction totally unlike anything yet launched. She is built largely for speed, long and narrow (252x26), 725 tons displacement, and draws but nine feet of water. Two triple-expansion engines of four cylinders each give her a speed of considerably owner when the fastest vessel of the kind in the world. Her armament is for throwing dynamite shells from three 16-inch tubes mounted in her forward section and solidly built into the ship at a permanent THE PURITAN.





THE TEXAS.





HE POSTMASTER-GENERAL is appointed by the President. His term, unless he dies, resigns or is removed, continues for one month after the Presidential term expires. There are three Assistant Postmasters-General, appointed by the President, and an Assistant Attorney-General, appointed by the Postmaster-General, in this Department.

THE OATH.

Every person employed in the postal service, from the Postmaster-General down, before entering upon his or her duties, or drawing any salary, takes the following oath:

"I, A. B., do solemnly swear (or affirm) that I will faithfully perform all the duties required of me, and abstain from everything forbidden by the laws, in relation to the establishment of post-offices and post-roads within the United States; and that I will honestly and truly account for, and pay over, any money belonging to the said United States which may come into my possession or control: So help me God."

Controlling the machinery of the whole postal system, the duties of the Postmaster-Gen-

eral are multifarious, and most of them appear plainly in the detailed workings of the service. The Postmaster-General reports annually to Congress all contracts for carrying the mails made within the preceding year, with all particulars concerning them; a statement of all land and water mail routes established within the year, and of all allowances made to mail contractors above the contract prices, and why; a detailed statement of the finances of the Department; a report of fines assessed against mail contractors; a copy of each contract for carrying mails between the United States and foreign countries, and a statement showing its benefits to the Department; a report on the postal business and agencies in foreign countries; a statement of the money expended in the Department, with details.

The Personnel

Of a post-office in one of the larger cities consists of the Postmaster, his private secretary and inquiry clerk, Assistant Postmaster, auditor of accounts, bookkeeper, cashier, watchman, mailing clerks, delivery clerks, letter carriers, registered letter clerks, money order clerks, special postal agents.

The Work.

THE POSTMASTER having general supervision, his private secretary attends to the correspondence relating to the business of the office.

THE INQUIRY CLERK receives all complaints about missing letters, and institutes searches for them.

THE ASSISTANT POSTMASTER is the ever present superintendent.

THE AUDITOR examines and corrects the accounts of the Postmaster with the Government, and with his subordinate officers, clerks and employes.

THE BOOKKEEPER keeps the accounts of the Postmaster with the Government, and with every person doing business with his post-office.

THE CASHIER has supervision of all the money paid into or out of the post-office, and provides for its safe keeping and proper deposit with the United States Sub-Treasurer or in some other designated place.

THE MAIL CLERKS open all packages of letters addressed to the office, count and compare them with the post bills accompanying the packages, and check any errors in the bills, file the bills and send the letters to the letter carriers' department, the general delivery, the registry office or the money order office, as may be necessary.

If the office is a distributing post-office, letters for other places within the distributing limits of the office are sorted, billed, repacked and forwarded; some of the clerks sort out newspapers and periodicals for delivering or mailing; other clerks receive, sort, stamp, bill and mail letters for other places; others receive and mail transient newspapers; others receive newspapers and periodicals sent from publishers direct to subscribers, weigh them to find out the amount of postage to be prepaid, and send the account to the proper officer. These papers are then forwarded without further charge.

Delivery Clerks receive letters, papers and periodicals not directed to any special box, street or number, and place them in the general delivery, to be called for by the owners. Letters directed to a specified box are placed in it and remain until called for.

THE SUPERINTENDENT OF FREE DELIVERY has charge of the lettercarriers.

One or more clerks in the general delivery assort and deliver the letters and papers sent to their department.

When letters remain a set time in the general delivery without being called for, they are advertised and kept a certain time longer, and are then forwarded to the Dead Letter Office.

POSTAL AGENTS superintend the railway postal service, and the special agents in the free delivery and money order service, in the interest of the Post-office Department.

Writer's Address.

Letters bearing upon the outside the name and address of the writer are not advertised, but, if not called for within the time mentioned on them, having been prepaid, are returned without further charge.

Postal Cars.

On the railway postal cars the clerks sort the mails for each station on the route and deliver them whilst in motion by throwing the bags off the car at the proper places, or handing them to the mail messengers at the depots where the train halts.

Postmasters.

There are five classes of postmasters. The fourth and fifth classes, who do the least business, are appointed by the Postmaster-General; the others by the President. A Postmaster must reside within the delivery of his office. He must, before entering upon his duties, give bond to the Government for their faithful performance, with good security. If a money order office, there are additional conditions on the bond. He must every three months report to the Postmaster-General a sworn statement of all moneys received by him from postage or other sources connected with his department. If he neglects for one month to make this quarterly return he and his sureties forfeit and pay double the amount of the gross receipts at his office during any previous or subsequent period of time, and if at the time of trial no account has been rendered, they are liable to a penalty in such a sum as may be estimated equivalent.

In a city where there is an Assistant Treasurer of the United States, the Postmaster must deposit with him all moneys collected. Where there is no Assistant Treasurer the Postmaster must keep such funds safely, subject to the order of the Postmaster-General. He can neither lend, use, deposit in an unauthorized bank, nor exchange for other money, the public funds which come into his hands.

CONTRACTS for carrying the mails (except in the railway service) are made with the lowest bidder, he giving ample security for the performance of the work.

THE RAILWAY SERVICE is classified according to the amount of mail moved. Companies owning routes of the first class are paid \$300 per mile per year; second class, \$100; third class, \$50.

LETTER-CARRIERS are employed in towns where there are 20,000 inhabitants. They must give bond with security. They are uniformed. Any person assaulting a letter-carrier while performing his duty is liable to a fine of from \$100 to \$1,000, or imprisonment from one to three years.

Rates of Postage.

POSTAL CARDS, 1 cent each, go without further charge to all parts of the United States and Canada. Cards for foreign countries (within the Postal Union), 2 cents each.

ALL LETTERS, to all parts of the United States and Canada, 2 cents per ounce or fraction thereof.

LOCAL, OR "DROW" LETTERS, that is, for the city or town where deposited, 2 cents where the carrier system is adopted, and 1 cent where there is no carrier system.

FIRST CLASS.—Letters and all other written matter, whether sealed or unsealed, and all other matters sealed, nailed, sewed, tied or fastened in any manner so that it cannot be easily examined, 2 cents per half ounce or fraction thereof. Postal cards, 1 cent each. Postal cards are unmailable with any writing or printing on the address side, except the direction, or with anything pasted upon or attached to them.

SECOND CLASS.—Only for publishers and news agents; 2 cents per pound. THIRD CLASS.—Printed matter, in unsealed wrappers only (all matter inclosed in notched envelopes must pay letter rates), 1 cent for each two ounces or fraction thereof, which must be fully prepaid. This includes books, circulars, chromos, engravings, handbills, lithographs, magazines, music, rewspapers, pamphlets, photographs, proof-sheets and manuscript accompanying the same, reproductions by the electric pen, hektograph, metallograph, papyrograph, and, in short, any reproduction upon paper by any process except handwriting and the copying press. Limit of weight, 4 lbs. except for a simple book which may be the production of the production of the same of the production o

Ibs., except for a single book, which may weigh more.

FOURTH CLASS.—All mailable matter, not included in the three preceding classes, which is so prepared for mailing as to be easily withdrawn from the wrapper and examined. Rate, 1 cent per ounce or fraction thereof. Limit of weight, 4 lbs. Full payment compulsory.

FOREIGN POSTAGE.—The following are the postal rates with Europe. The rates for letters are for the half ounce or fraction thereof, and those for newspapers for 2 ounces or fraction thereof.

To Great Britain and Ireland, France, Spain, and all parts of Germany, including Austria, Denmark, Switzerland, Italy, Russia, Norway, Sweden, Turkey (European and Asiatic), Egypt, letters 5 cents, newsquapers 1 cent for each 2 ounces or fraction thereof.

To Australia, letters, via San Francisco (except to New South Wales), 5 cents; via Brindisi, 15 cents; newspapers, via San Francisco, 2 cents; via Brindisi, 4 cents. China, letters, via San Francisco, 5 cents; via Brindisi, 13 cents; 4 cents for each paper not weighing over 4 ounces. British India, Italian mail, letters 5 cents; newspapers 1 cent for 2 ounces. Japan, letters, via San Francisco, 5 cents; newspapers 1 cent for 2 ounces.

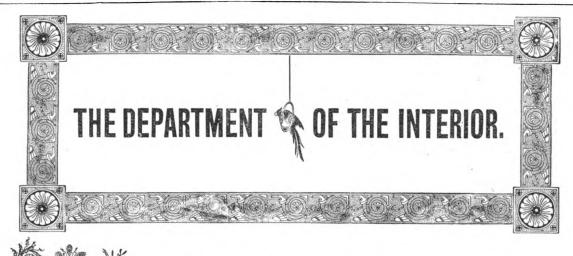
Postmasters-Ceneral.

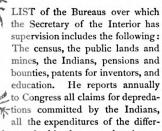
Samuel Osgood, Mass.	1789	Aaron V. Brown, Tenn.	1857					
Timothy Pickering, Penn.	1701	Joseph Holt, Ky.	1850					
Joseph Habersham, Ga.	1795	Horatio King, Mo.	1861					
Gideon Granger, Conn.	1802	Montgomery Blair, Md.	1861					
Return J. Meigs, Ohio.	r814	William Denison, Ohio.	1864					
John McLean, Ohio.	1823	A. W. Randall, Wis.	1866					
William T. Barry, Ky.	1829	John A. J. Creswell.	x86q					
Amos Kendall, Ky.	1835	Marshall Jewell.	1874					
John M. Niles, Conn.	1840	James N. Tyner.	1876					
Francis Granger, N. Y.	1841	David M. Key.	1877					
Charles A. Wickliffe, Ky.	1841	Horace Maynard.	1880					
Cave Johnson, Tenn.	1845	Thomas L. James,	1881					
Jacob Collamer, Vt.	1840	Timothy O. Howe.	1881					
Nathan K. Hall, N. Y.	1850	W. O. Gresham.	x883					
Samuel D. Hubbard, Conn.	1852	Frank Hatton, Iowa,	1884					
James Campbell, Penn.	1853	Wm. F. Vilas, Wis.	1885					
Don M. Dickinson Mich 1888								

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John Wanamaker, Pa.







ent branches under his charge, and estimates for further appropriations. The transactions of this Department are conducted through six branches, each governed by a Commissioner:

The General Land Office.

The Bureau of Indian Affairs.

The Pension Office.

The Patent Office.

The Bureau of Education.

The Bureau of Agriculture.

The Commissioner of the General Land Office

Superintends the survey and sale of the public lands of the United States; issues patents for all lands granted by authority of government. Plats of surveys and all information concerning the public lands can be found in his office. All patents issued from the office are signed by the President, countersigned by the Commissioner, and have the seal of the office affixed.

A Surveyor-General is appointed to each of the surveying districts: Louisiana, Florida, Minnesota, Kansas, Nebraska, Iowa, Dakota, Oregon, Washington, Colorado, New Mexico, California, Idaho, Nevada, Montana, Utah, Wyoming and Arizona. When the surveys in any State are finished and all the maps, field notes and other records turned over to the Secretary of State of such State, the office of Surveyor-General ceases in that State.

How to Secure a Homestead.

All the public lands not already disposed of by reservations or by grants or sales are owned by the United States Government. These lands, except such as are reserved by any treaty or by Presidential proclamation for any purpose, or that are lying within the corporate limits of any city or town, or those on which salt springs are situated, are open to pre-emption.

This right of pre-emption has proved of inestimable value in populating and bringing into subjection the vast tracts of wilderness spread over the face of the country. This wise land system induces the sturdy sons of toil to come out of the "house of bondage" in the densely crowded districts of the East to create new homes in the regions of the setting sun.

Who may Pre-empt.

Any head of a family, or widow, or single person over twenty-one years of age, being a citizen actually or in prospective, having settled and made a home on any of these lands, may at the nearest land office enter any quantity of land not exceeding 160 acres by the payment to the Government of \$2.50 per acre for a tract of less than \$1 acres or \$1.25 per acre for a larger one. Unless he or she already owns 320 acres of land in any State or Territory, or has abandoned land already owned to settle in the same State or Territory.

No person is entitled to more than one pre-emption, nor can he secure a second tract of public land by this means.

Land Offices.

Land offices, where all information regarding the settlement and entry of these lands may be obtained, are located close to the public lands. In Missouri, at Boonville, Ironton and Springfield; Alabama, at Mobile, Huntsville and Montgomery; Louisiana, at New Orleans, Natchitoches and Monroe; Michigan, at Detroit, East Saginaw, Ionia, Marquette, Traverse City or Cheboygan; Ohio, at Chillicothe; Indiana, at Indianapolis; Illinois, at Springfield; Arkansas, at Dardan-elle, Little Rock, Camden and Harrison; Florida, at Tallahassee, Gainesville or East Florida; Iowa, at Des Moines, Council Bluffs, Fort Dodge and Sioux City; Wisconsin, at Menasha, St. Croix Falls, Wausau, La Crosse, Bayfield and Eau Claire; California, at San Francisco, Marysville, Humboldt, Stockton, Visalia, Sacramento, Los Angeles, Shasta and Susanville; Nevada, at Carson City, Austin, Belmont, Aurora and Elko; Washington, at Olympia, Vancouver or

Columbia River, and Walla-Walla; Minnesota, Taylor's Falls, St. Cloud, Duluth, Alexandria, Jackson, New Ulm, Litchfield, Redwood Falls and Oak Lake; Oregon, at Oregon City, Roseburgh, Le Grand, and Lake View; Kansas, at Topeka, Salina, Independence, Concordia, Wichita and Cowper; Nebraska, West Point, Beatrice, Lincoln, Dakota City, Grand Island, North Platte and Lowell; Dakota, at Vermillion, Springfield, Pembina and Yankton; Colorado, at Pueblo, Denver City, Fair Play and Central City; New Mexico, at Santa Fe; Idaho, at Boise City; Montana, at Helena; Utah, at Salt Lake City; Wyoming, at Cheyenne; Arizona, at Prescott; Mississippi, at Jackson.

How Pre-emption is Perfected.

Within thirty days of first settling on the land, the pre-emptor must file a written declaration of his intentions. Failing to make this statement, or to furnish proof of settlement and improvement, or to make the required payment within the year, any other person may enter the same tract. When more than one person settles on the same tract, the first comer has the right of pre-emption.

In entering land at the land office, the pre-emptor must swear that he is the head of a family, or that he is twenty-one years old; that he is a citizen, or is about to become one, or has served in the army or navy of the United States; that he has never before availed himself of his privilege to pre-empt public land; that he does not own 320 acres of land in any State or Territory; that he has not settled upon and improved this land to sell it on speculation, but for his own use; that he has not bargained with any other person that the title of said land, either in whole or in part, shall be vested in any other than himself alone.

The certificate of this oath is filed in the land office, and a copy of it is also sent to the General Land Office for preservation.

On making the application the pre-emptor must pay a fee of five dollars on a claim of eighty acres or less, and ten dollars on a larger one.

The certificate of the Register of the Land Office is not issued to the applicant until proof is furnished of a five years' continuous residence and cultivation after the entry has been made. The payment must be complete before the expiration of the five years. The applicant

must also prove that he still retains the land. Then, after taking the oath of allegiance to the United States Government, he is entitled to a patent. This homestead then cannot be levied upon and sold for any debts contracted before the Government patent was issued.

Penalties for Perjury.

By false swearing at the time of making the entry, the pre-emptor forfeits the money he has paid and the land itself; and if he has agreed to convey his pre-emptive title to any other person, that conveyance is null and void.

False swearing at the time of applying for the patent renders all the parties liable to punishment for perjury.

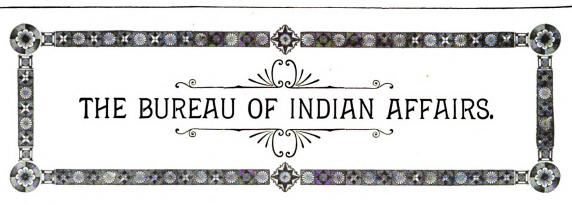
How to Shorten the Period of Pre-emption.

The time of granting the patent is shortened to three years if the claimant proves that he has timber of his own planting growing on the tract for two years, one acre with the trees no farther apart than twelve feet for every sixteen acres of the homestead.

Officers of the Land Office.

There are a Register of the Land Office and a Receiver of Public Money (the latter reports to the Treasury Department), appointed by the President, for every land district, and each is required to reside at the place where the land office to which he is appointed is directed to be kept. Each receives a salary of \$500 a year besides fees and commissions for locating land warrants, issuing certificates, etc.; but the salary, fees and commissions cannot exceed \$3,000. All balances over this amount must be paid into the United States Treasury. The receivers make monthly returns to the Treasury; should any Register knowingly and falsely inform a person applying to enter land that the same land had been already entered, and refuse to permit the person so applying to enter the land, he makes himself liable to the applicant for damages of five dollars for each acre of the land in question, which may be recovered in an action for debt, before any proper court.







matters concerning the Indians are in charge of the Commissioner of Indian Affairs. He examines all accounts and vouchers for claims and disbursements connected with Indian affairs. He reports annually a tabular statement showing the several objects of expenditure under his supervision, and embodying the statements of all agents issuing supplies of any kind to the Indians, with the number of Indians re-

ceiving them.

There is an Advisory Board connected with this Bureau, consisting of not more than ten persons, appointed by the President. Members of this Board receive no compensation; they are chosen

as men eminent in the community, who have exhibited some peculiar mark of fitness for the position. The Board supervises the expenditures of money appropriated for the Indians, and inspects all goods purchased for them. It has access to all books and papers relating to Indian affairs in any Government office. The Board has no direct power further than that of inspection.

Inspectors.

From one to five Indian Inspectors are appointed by the President. Their duty is to visit twice a year each Indian su-

perintendency and agency, and fully investigate all matters belonging to the business of each, including the examination of accounts, the manner of expending the money, the number of Indians provided for, contracts of all kinds, the condition of the Indians, their advance in civilization, the extent of the reservations, and what use is made of the lands set apart for that purpose, and all matters belonging to the Indian service.

Each inspector has power to examine on oath all officers and others in and about the superintendencies and agencies, and to suspend any superintendent or employe and appoint others temporarily. He has power to enforce the laws in the several agencies and superintendencies. The same inspector does not visit and investigate any agency or superintendency twice in succession.

Four or more superintendents are appointed by the President. Their duties are each in his own district to supervise and control the official conduct and acts of all persons employed by the Government in Indian affairs.

Indian Agents.

Indian Agents are appointed by the President. They must give bond with good security before enlisting upon their duties. Every agent must reside and keep his agency near the tribe of Indians to which he

is assigned. Within his agency he manages and superintends the intercourse with the Indians and enforces all rules prescribed to him. No person employed in Indian affairs may have an interest in any trade with them, under a penalty of \$5,000 and removal from office.

Teachers may be employed for the improvement of the Indians, when it is deemed opportune.

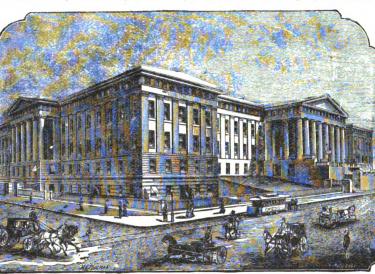


A bond of \$5,000, with approved security, must be given, warranting the observance of all laws with

respect to intercourse with the Indians, by any one proposing to become an Indian trader.

Pension Office.

The Commissioner of Pensions has the management of this office. Pension Agents are required to give bond; they receive a commission of two per cent on all money paid ont by them to pensioners, and a fee of thirty cents on every voucher prepared and paid by them. Agents and their clerks may take the affidavits of pensioners and their witnesses, but receive no fee for that service. In paying pension the agent is authorized to deduct the attorney's fee for aiding the pen-



THE PATENT OFFICE.

sioner. He retains a fee of thirty cents for this service. Pension sur geons receive \$1,800 a year; the medical referee receives \$2,500.

Boards of examining surgeons consist of three members. In ordinary cases each member receives one dollar fee; in special examinations, three dollars.

Patent Office.

In this Bureau are kept all records, books, models, drawings, specifications and other papers and things belonging to patents for inventions.

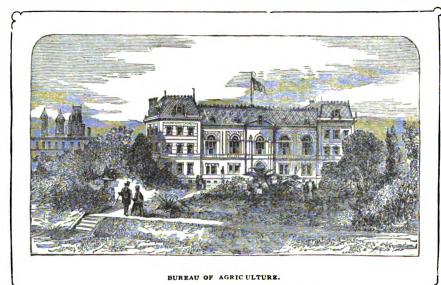
The Commissioner of Patents and the chief clerk are required to give bond. To officer or employe in the Patent Office is allowed to acquire or take during his or her term of office any right or interest in any patent issued by the office. The Commissioner of Patents has copies of patent claims, laws, regulations and circulars printed for the information of the public. He makes an annual report to Congress of all matters committed to his charge.

The Secretary of the Interior also has supervision of the Government Hospital for the Insane and the Columbia Deaf and Dumb Institution in the District of Columbia.

Agriculture.

The Bureau of Agriculture, although the Commissioner is appointed directly by the President, is a branch of the Interior Department.

This Bureau was created by Congress to acquire and distribute among the people of the United States useful information on subjects connected with agriculture, and to procure, propagate and distribute among the people valuable plants and seeds. The Commissioner of Agriculture is appointed by the President, and has for his subordinates a chief clerk, one chemist, one assistant chemist, one entomologist, one microscopist, one botanist, one statistician, one superintendent of experimental gardens and grounds, one assistant superintendent of same, one disbursing clerk, one superintendent of seed room, one assistant superintendent of same, one engineer, one



Bureau of Education.

The duties of the Commissioner of this Bureau consist in the collection of facts and figures showing the condition and progress of education in the several States and Territories, to diffuse information with regard to the management of schools and methods of teaching, and promote the cause of education.

The Miscellaneous Offices.

Besides the six main heads under which the workings of the Interior Department are carried on, there are the office of the Superintendent of Public Documents, and the Returns Office. The first needs no description; the latter is an office where the returns of all contracts made by the Secretary of War, the Secretary of the Navy and the Secretary of the Interior are filed and indexed. Certified copies of any of their returns are furnished at a charge of five cents per hundred words.

superintendent of folding-room, two attendants in museum and one carpenter.

It is the duty of the Commissioner of Agriculture to procure and preserve all the information he can obtain concerning agriculture, by means of books, correspondence, experiments, practical and scientific, collecting statistics, and by any appropriate method in his power. He is also required to collect seeds and plants, to test them by cultivation, propagate those that are worthy, and distribute them among agriculturists.

Secretaries of the Interior.

decretaries of the interior.								
1849	O. H. Browning, Ill.	1866						
1. 1850	Jacob D. Cox.	1869						
1853	Columbus Delano.	1870						
1857	Zachariah Chandler.	1875						
1861	Carl Schurz.	1877						
1863	Samuel J. Kirkwood.	1881						
1865								
	1849 1. 1850 1853 1857 1861 1863	1849 O. H. Browning, Ill. 1.1850 Jacob D. Cox. 1853 Columbus Delano. 1857 Zachariah Chandler. 1861 Carl Schurz. 1863 Samuel J. Kirkwood.						

THE ATTORNEY-GENERAL.



HE ATTORNEY-GENERAL of the United States has charge of the Department of Justice. The officers under him are the Solicitor-General, three Assistant Attorneys-General, a Solicitor of the Treasury, a Solicitor of Internal Revenue, a Naval Solicitor and an Examiner of Claims for the Department of State, all of whom are appointed by the President and hold office for four years.

Whenever required by the President, it is the duty of the Attorney-General to give his advice and opinion on questions of law. He must decide on the validity of the land-title to any property where the Government proposes to erect buildings.

He must give his opinion on any question of law arising in any of the Executive Departments, when called upon by the head of such Department.

He superintends the District Attorneys and Marshals of the United States, and may employ other counsel to aid District Attorneys in their duties. He may send the Solicitor-General or any officer of his Department to any State or district of the United States, to attend to the interests of the Government in any Federal or State court. He has supervision of the accounts of District Attorneys, Marshals, Clerks and other officers of the United States courts. He signs all requisitions for the payment of moneys appropriated for the use of his Department.

He reports to Congress annually a full account of the business of his Department during the year, the expenses of the Federal courts, number of pending suits, number of additional counsel and attorneys employed, statistics of crime, etc. The approval of the Attorney-General is necessary to make the opinions of his subordinates valid.

All questions of law referred to him he may submit to his subordi-

nates for examination and opinion, except such questions as involve a construction of the Constitution of the United States.

The officers of this Department assist in performing all legal service required for the other Departments, in prosecuting or defending Government claims and suits. The traveling expenses of the officers of this Department when on duty are paid in addition to their salaries.

Attorneys-General.

Edmund Randolph, Va.	1789	Isaac Toucey, Conn.	1848
William Bradford, Penn.	1794	Reverdy Johnson, Md.	1849
Charles Lee, Va.	1795	John J. Crittenden, Ky.	1850
Levi Lincoln, Mass.	1801	Caleb Cushing, Mass.	1853
Robert Smith, Md.	1805	Jeremiah S. Black, Penn.	1857
John Breckenridge, Ky.	1805	Edwin M. Stanton, Penn.	1860
Cæsar A. Rodney, Del.	1807	Edward Bates, Mo.	1861
William Pinkney, Md.	1811	James Speed, Ky.	1864
Richard Rush, Penn.	1814	Henry Stanbery, Ohio.	1866
William Wirt, Va.	1817	William M. Evarts.	1868
John M. Berrien, Ga.	1829	E. Rockwood Hoar.	1869
Roger B. Taney, Md.	1831	Amos T. Ackerman.	1870
Benjamin T. Butler, N. Y.	1834	George H. Williams.	1871
Felix Grundy, Tenn.	1838	Edwards Pierpont.	1875
Henry D. Gilpin, Penn.	1840	Alphonso Taft.	1876
John J. Crittenden, Ky.	1841	Charles Devens.	1877
Hugh S. Legare, S. C.	1841	Wayne MacVeagh.	1881
John Nelson, Md.	1844	Benjamin H. Brewster.	1881
John Y. Mason, Va.	1845	A. H. Garland, Ark.	1885
Nathan Clifford, Me.	1846	W. H. H. Miller, Ind.	1889

THE SUPREME COURT.

"The judicial power of the United States shall be vested in one Supreme Court, and in such inferior courts as the Congress may from time to time ordain and establish."- Constitution.

JUDGES both of the Supreme and inferior courts hold office during good behavior, and there can be no decrease in the compensation they receive during their continuance in office. The power of the judiciary extends to all cases in law and equity arising under the Constitution, the laws of the United States, and all treaties with foreign countries.

The Supreme Court of the United States consists of a Chief Justice and eight Associate Justices, appointed by the President.

Precedence of the Associate Justices is according to the dates of their commissions. Should the commissions of two or more bear the same date, precedence will be according to their age.

Should a vacancy occur in the office of Chief Justice, his duties devolve upon the Associate Justice who is first in precedence.

If one of these Judges, after having held office for ten years, being then seventy years of age, resigns, he will receive for the remainder of his life the same compensation as he did whilst a member of the

Any six of the Justices form a quorum.

The Supreme Court appoints a clerk, a marshal and a reporter.

THE CLERK is under the same oath, restrictions and bond as the clerks in the United States District Courts. Deputy clerks when needed may be appointed and removed by the court.

THE MARSHAL is required to attend the court at its sessions, to serve and execute all processes and orders issuing from it, or made by the Chief or Associate Justices, in pursuance of law, and to take charge of all property of the United States used by the court or its members. He may, subject to the approval of the Chief Justice, appoint assistants and messengers to attend court, with the same allowance of compensation as is received by similar officers in the Lower House of Congress.

Congress.

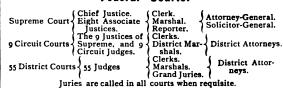
THE REPORTER of the Supreme Court must print and publish the decisions of the court within eight months after they are made, and every subsequent year he must issue a similar volume. He receives for his first volume \$2,500, and for each of the succeeding encs \$1,500. They must be completed at the prescribed time.

Annualty, beginning on the second Monday in October, the Supreme Court holds its session. Adjourned or special terms are held when necessary.

necessary.

The jurisdiction of the Supreme Court is pointed out by the Constitution, and need not be repeated here. In action at law against citizens of the United States, trials of issues of fact are always by jury.

Federal Courts.



Districts.

The United States are divided into fifty-five Federal judicial districts. A Judge is appointed for each district by the President. Each Judge must reside in the district for which he is appointed. All the records of the court are aept at the place where the District Court is held.



Duties of the American Congress.

L'THOUGH the duties and responsibilities of the American Congress are very plainly laid down in the Constitution, a further examination of the Legislative Department cannot but be of interest. Congress is divided into the Senate and the House of Representatives, a division which was made because our Government

was founded upon the model of England, whose Parliament consists of a House of Peers and a House of Commons. The Senate is supposed to play the same part in American legislation which the House of Peers does in Britain. It is a sort of governor in the machinery of the body politic, which exerts a conservative and prudent influence on law-making. The Senate originally, although that meaning has been largely neglected, meant the conclave

of the sovereign States of the Union, a council which was to look more closely after the general and external affairs of the confederacy, while the House of Representatives was to represent the people of the whole Union. This meaning, it has been said above, has been largely lost in the course of time, but the fiction remains, and the division of the powers of Government between the two bodies illustrates the purpose which the fathers of the Government had in the original separation into two Houses.

The Senate.

The Senate consists of two Senators from each State of the Federal Union; these Senators are chosen by the Legislatures of the respective States and hold office for six years. There was a strong effort made at the time of the drafting of the Constitution to extend the term for life, but this was believed to savor too much of aristocracy, and after long debate six years was agreed upon as a compromise measure. The pay of Senators is \$5,000 per year. The Senate is presided over by the Vice-President, and when he has for any cause vacated his office a President pro tempore of the Senate is elected. There are now (1883) seventy-six Senators. All impeachments are tried by the Senate, and when the President of the United States is on trial the Chief Justice of the Supreme Court must preside. The Senate must ap-

prove of treaties made with foreign governments by the President be fore they can become binding, and the consent of the Senate is necessary to the appointments to all the great offices of the State made by the President. The Senate is the only permanent body in the United States Government, the elections being always so ordered that two-thirds of the Senators hold over.

The House of Representatives.

In the early days of the Federal Union the only legislative body was the Continental Congress, which exercised both the executive and legislative functions of government, and which occasionally performed judicial duties also. The old Congress piloted the nation through the Revolutionary war, but, although effective for its original purpose, it was not able for the work which fell upon its shoulders under the articles of confederation. The articles themselves were unsuited to the land, and in a little while it became evident that the United States experiment would end in disaster and disappointment unless something was done to give it shape and direction.

The man that had led the Continental Army to glory and freedom through the Revolution again came forward and preserved by his wise statesmanship the Republic which his military genius had founded. At the call of George Washington the American Constitution was born, and the keystone of the Constitution is the House of Representatives. This body is the brain of the nation; on its floor all the momentous issues of the Republic have been settled; no higher office can a citizen win than a seat in the council of the Nation, none greater in the influence which it wields, not for America alone, but for the future of the human race.

The number of Representatives is decided by the census, which is taken every ten years. As soon as this is done, Congress decides upon the number of Representatives for the ensuing decade. The number since the establishment of the Constitution has been as follows:

1789 - 1793,		65	1843 — 1853,		223
1793 — 1803,		105	1853 — 1863,		237
1803 — 1813,		149	1863 — 1873,		243
1813 - 1823,			1873 — 1883,		293
1823 — 1833,		213	1883 — 1893,		325
.0			1000		

These Congressmen are paid \$5,000 a year, with certain additions in the shape of mileage, stationery, etc., etc. The qualifications for a Representative are fully explained in the Constitution.

6HE AUSTRALIAN BALLOT SYSTEM

ITS OBJECT TO PREVENT BRIBERY AND INTIMIDATION, TO PLACE ALL CANDIDATES BEFORE THE LAW, AND TO SMASH POLITICAL MACHINES.

The Australian system of voting, so called because first used in Australia, has been for several years in successful operation there, and, with non-essential variations, in England, Scotland, Ireland and Canada. It has also been adopted in Massachusetts. Its principal objects are to prevent bribery and intimidation, to place all candidates upon an equality before the law, and to determine the dangerous powers of political machines.

The system will be readily understood by reference to

the accompanying drawing:

The voter, upon entering the polling place, turns to his right at the point marked "Entrance," where he receives from two election officers selected from opposing political parties a single ballot or a single set of ballots, according to the local custom of voting. On the back is indorsed a stamp or signature, sufficient and only sufficient to identify the ballot as official; and on the face are plainly printed the names of the candidates for each office, with a designation of their respective political parties, after this manner:

	FOR MAYOR.	VOTE FOR ONE.
Democrati.,	John Doe.	
Republican.	Richard Roe.	
Prohibition,	David Smith.	
Independent,	Samuel Jones.	
	FOR CORONERS.	VOTE FOR TWO
D .:	Alanson Jacobs.	
Democratic,	Harvey Sylvester.	
D . III	Martin Rawson.	
Republican,	Wyman Simpson.	
D 1.7	Valentine Remsen.	1
Prohibition,	Victor Sampson.	1
	Erastus Myers.	
Independent,	Samuel Bixby.	

PREPARING A BALLOT.

Having received his ballot, the voters enter one of the booths back of the railing, where, secluded from observa-tion, he prepares the ballot by placing in the blank column a cross opposite the name of each candidate for whom he desires to vote; or, if he prefers, by writing the names of candidates of his own nomination in place of those already there. If there are several candidates for the same kind of office, as Coroners in the sample ballot above, or Presidential Electors, and he wishes to vote the "straight" cicket of his party, he places the cross under the name of the party, or draws it through the space in the blank column alloted to the party's candidates, which signifies that he votes for each candidate named in that space. Thus, in the sample ballot, a cross under the word "Democratic," or through the first two spaces of the blank column to the right, is one vote each for Alanson Jacobs and Harvey Sylvester.

After preparing his ballot by indicating every candidate for whom he votes, the voter foids it in such manner as to conceal the face and expose the indorsement, and, withdrawing from the booth, gives the ballot to the inspectors, who identify it by the indorsement as official. It is then deposited in the box and the voter passes out at the gate marked "Exit."

From the time he receives his ballot until he casts it, the voter is permitted to have no communication with any one but the election officers, and with them only for official purposes; and only election officers and persons actually engaged in voting are ever admitted within the railing.

THE TASMANIAN DODGE.

Upon proof of inability from physical infirmity or illiteracy, a voter may call into the booth officers appointed and sworn for the purpose to aid him in preparing his ballot; and when a ballot is accidentally destroyed or defaced it may be exchanged for a clean one. The importance of the latter requirement may not at once be apparent; but to secure secrecy every ballot delivered to a voter must be either cast or returned. This explains the necessity for indorsing ballots. But for the indorsement a blank paper outwardly resembling a ballot might be cast by a voter, who would then be able surreptitiously to carry away an official ballot. This could be prepared for a bribed voter, the proof of its use being his production of a second official ballot. That could be similarly prepared and used, and so on. Such a fraud, known as the "Tasmanian dodge," was successfully perpetrated in Australia in the dodge," was successfully perpetrated in Australia in the early days of the system; but its repetition was prevented by requiring ballots to be officially indorsed.

As it is essential that ballots be printed at public expense and distributed by public officers, the system must include some mode of certifying nominations to the proper authorities a reasonable time before election. That proposed by the Yates-Saxton bill of New York was perhaps as convenient as could be desired. Under it State nominations were to be certified fifteen days and local nominations ten days before election; nominations of a political party which at the next preceding election polled 3 per cent. of the whole vote were to be certified by party officers; and independent nominations, if for a State office, were to be certified by a thousand voters, and if for a local office by a hundred.

SECRECY OF THE BALLOT.

Penal laws are ineffectual to prevent bribery and intimidation. The primary remedy is a secret ballot. And this is best secured when the only proof of an elector's vote is his own uncorroborated assertion. Under the Australian system no other proof can be made. That fact gives to the most timid among dependent voters a sense of security which makes him free. And to bribery it is fatal. Bribers are not likely to invest money on the faith of a bribed man's naked assertion; if there be such a virtue as "honesty among thieves," it is not acceptable security to the thieves themselves.

But secrecy, though the primary remedy for bribery and intimidation, is not all that is required to purify elections, nor the only remedy the Australian system offers.

HOW THE TICKETS ARE PRINTED.

The printing and distribution of ballots is a most important part of election machinery, and, left to private enterprise, inevitably tends, as does the farming out of any other public function, to breed corruption and build up monopoly. It makes a necessity for irresponsible organizations which come to wield autocratic power over the political party they claim to serve, and in turn, through discipline almost military in severity, are dominated by an inner circle of "leaders." As ballots can neither be printed nor distributed without money, and may not be faithfully handled unless trusty workers are rewarded with more than an election-day stipend, the organization undertaking the work has a plausible, if not reasonable, claim for money from its beneficiaries and official patronage for its retainers.

It is the necessity of raising these funds and employing the "workers" that justifies assessments, gives color of voluntary contributions to what in truth are sales of nominations, excuses the submission of official patronage to the distribution of the machine, provides ample cover for collecting a corruption fund, and, through "workers" at the polls, a convenient channel for disbursing the fund in bribes. And as corruption funds increase, masked in increasing demands for legitimate expenses, assessments grow, the price of nominations rises, independence is shackled, and the organization becomes more indifferent to party principle as its monopoly of political power strengthens. Born of the necessity of volunteer machinery for preparing and distributing ballots, it develops into a powerful instrument, which, in the hands of political jobbers, enables them to buy and sell office "as the Prætorians sold the Roman purple."

EXIT THE MACHINE.

The political monster would be destroyed by the Australian system. If the State assumed its function of providing ballots there would be no necessity for

'workers" at the polls, and the excuse for raising, as well as the best mode of using, corruption funds would disappear. Assessments could not then be levied upon candidates, for when "work-ers" at the polls are not required machines can neither serve nor injure. Nor would nominations be sold: for when candidates stand upon an equality in respect to election machinery, and there is no opportunity for

bribing voters, organizations merely as organizations, have nothing worth buying, while organizations as representatives of principles can not be approached through commercial channels. Trafficking in office would be replaced by political discussion, the power of the machine by the voice of the

SOME OBJECTIONS CONSIDERED.

To this system it is objected that by requiring nomina tions to be made in advance of elections it denies a constitutional right of voters to select candidates from the whole body of voters. From such eminent authorities as Judges Cooley, McCrary and Folger, and the highest courts of Pennsylvania, Massachusetts and New York, it may be safely inferred that a restriction of the franchise to candidates nominated a short time before election is a reasonable regulation and not an unconstituional interference; but the inference is not necessary, since the system allows each voter to reject all candidates and write new names upon his ballot.

It is objected also that by requiring the blind and illiterate to expose their vote to election officers, secrecy of the ballot is, as to them, violated. Under our present system voting is not secret. It was for that reason rejected by the British Parliament and the Australian system adopted. The object now is to secure secrecy, but in aiming at that we are confronted with a class of voters to whom exposure

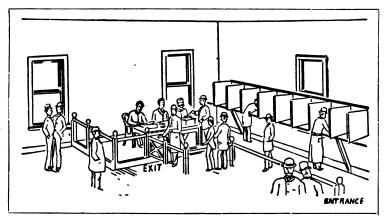
of their ballots to somebody is necessary, and an exception must be made in their favor to prevent their disfranchisement. What form, which shall be consistent with the highest degree of secrecy, can that exception take? If allowed to carry their ballots away these voters fall into the hands of irresponsible and, perhaps, dishonest persons, and may be made, innocently or otherwise, instruments for perpetrating some form of the "Tasmanian dodge." If, for their benefit, official ballots are generally circulated, all efforts for secrecy are frustrated. And, if they are permitted to take a "friend" into the booth, a door is opened for the bribery of every venal voter, who is or can successfully pretend to be unable to read English. Exposure of ballots must be prevented by every means that ingenuity can suggest, but, in exceptional cases, in which it can not be avoided, it may most safely be confided to election officers, who represent opposing parties, are under oath of secrecy and fidelity, can be readily detected in malfeasance, and, when detected, are liable to severe penalties. As to blind voters, this seems to be the only course, but, respecting the illiterate, any exception to the general rule may be avoid-

ed by identifying the names on the ballots with numbers or by printing them with inks of different colors.

WILL IT BE ADOPTED HERE?

There is reason to believe that the Australian system of voting is about to receive favorable consideration in all the States where election abuses have been seriously felt; but its adoption would so surely dispense with machine or-

ganizations that there is reason to fear attempts at essential modification. These are likely to be in the direction of allowing the delivery of ballots to parties and candidates before election, and distribution as well by "workers" at any time or place as by sworn officers at the polls. A little thought will show that this would continue the power of political machines and endanger secrecy. Any such modification no intelligent and sincere advocate of electoral reform can accept, for in this matter it is not true at this time that "half a loaf is better than no bread." It were better that the reform be delayed with the force of public opinion pressing it forward, than that inefficient measures should allay public opinion by seeming to meet its demands. Details may be compromised, but essentials must be required at every step in the agitation. These are, that ballots containing the names of all candidates be printed at public expense; that one official ballot or set of ballots be delivered by sworn officers to each voter as he appears to vote; that the voter be immediately secluded for the purpose of preparing to vote; that he deliver his ballot to the inspectors so folded as to conceal its face and expose the official indorsement; that immediately after voting he withdraw from the secluded part of the polling place; that there be no intercourse with him except by election officers for official purposes from the time he receives his ballot until he votes; and that no voter be allowed to cast any ballot but the one he receives from the election officers.



A CALENDAR FOR THE CENTURY.

To find the days of the week corresponding to the days of the month for any year of the century, find the year in the left-hand upper division. Follow the index (or hand) to the right, to the month sought; then downward to the day of the week, and to the left for the corresponding days of the month. In leap-years, if seeking the day of the month, after the 29th of February, subtract one day; but if the day of the week is sought, go forward one day. The heavy figures are leap years. The civil year is 365.2422414 days; but on the basis of an added day (for leap-year) every fourth year, it is reckoned as 365.26 days, an excess of .007586 of a day, or one day in 129 years, and three days in 387 (or roundly, 400) years. To correct this excess, instead of 100 leap-years in 400 years only 97 are reckoned, the three century-years that are not exact multiples of 400 being treated as common years.

1800 '51 '06	'12 '96	'17	'23 '68	'45 '73	'34 '79	'40 '90	NG-	June.	Sept.	April. July.	Jan. Oct.	May.	Aug.	Feb. Mar. Nov.
' ● 5 '50	'11 '56	'95 '61	*22 *67	'28 '89	'33 '78	'89 '84	NG-	Sept. Dec.	April. July.	Jan. Oct.	May.	Aug.	Feb. Mar. Nov.	June.
'49 1900	'10 '55	'16 '94	'21 '66	'27 ' 72	'44 '77	'38 '83	1G-	April. July.	Jan. Oct.	May.	Aug.	Feb. Mar. Nov.	June.	Sept.
'04 '93 '99	'09 '54	'15	'43 '65	'26 '71	'32 '88	'37 '82	167	Jan. Oct.	May.	Aug.	Feb. Mar. Nov.	June.	Sept. Dec.	April. July.
'03 '48	'42 '53	'14 '59	'20 '87	'25 '70	'81 '76	'98 '81	16T	May.	Aug.	Feb. Mar. Nov.	June.	Sept. Dec.	April. July.	Jan. Oct.
'02 '47 '97	'08 '86	'13 '58	'19 '64	' 4 1 '69	'80 '75	'86 '92	kar	Aug.	Feb. Mar. Nov.	June.	Sept.	April. July.	Jan. Oct.	May.
'01 '85	'07 '52	'46 '57	'18 '63	'24 '91	'29 '74	'35 '80	AG-	Feb. Mar. Nov.	June.	Sept. Dec.	April. July.	Jan. Oct.	May.	Aug.
							×	4	4	4	4	\$	\$	4
29		22	15		8	1	121	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
30		23	16		9	2	761	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
31		94	17	:	10	8	-61	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	Mon.
		25	18	;	11	4	-01	Wed.	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.
••		26	19		12	5	121	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.
••		97	20	,	18	6	-64	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.
••		26	91] 1	14	7	728	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.





Over One Hundred Thousand Important References, arranged in Alphabetical Order, and Illustrated with Original Diagrams on the New Plan of Object-Teaching.





RUE statistics are the record of industrial history. He who cannot read what is written between their lines, or interwoven in their columns, may rest content with the

narrative of wars and dynasties, or of political changes, and may imagine that he knows the true history of events. But can he tell how the people lived and moved-how wars and dynasties have been sustained? If he cannot, let him study what figures can teach to any one who knows how to master them-the industrial history of free nations. The battle is not to the heaviest battalions, but to the people who can sustain the battalions longest. It is the commissary-general who wins, for without him the master of the ordnance would be powerless. In the battle of life it is the same. If there were no prophecy of the future in the statistics of the past and present there would be no meaning to the computations, and the disclosures of the census would be without value.

It is not the province of the POPULAR EDU-CATOR to advance new theories in political economy, or to discuss theories already put forth, but it has been the endeavor of the editor

to present in small compass, in compact, accessible and attractive form, a vast amount of valuable information, gathered from the most reliable sources. The wealth and resources of States and Nations, population, religion, commerce, labor and capital, and all important subjects of discussion, are treated fully in their proper place, while subjects of minor importance, though often of equal interest, have not been neglected. In short, the object of the following Dictionary of Facts and Figures is to afford ready reference on subjects of statistical interest.

ACQUISITION OF TERRITORY.—The increase in area of the United States, by war and treaty, is shown in the annexed table:

How.	Whence.	What.	Sq. Miles.
By treaty By treaty By union By treaty By war By treaty	France Spain Mexico England Mexico Mexico	Louisiana b. Florida c. Texas d. Oregon California & New Mexico e. Gadsden Purchase f.	820,680 899,579 66,900 318,000 308,052 522,955 45,535 577,390
	By war By treaty By treaty By union By treaty By war By war	By war England By treaty France By treaty Spain By union Mexico By treaty England By war Mexico By treaty Mexico	By war. England { The thirteen origi-} nal States a} By treaty France Louisiana b. Couisiana b. By treaty Spain Florida c By union Mexico Texas d By treaty England Oregon { California & New } Mexico { Mexico e} By treaty Mexico Gadsden Purchase f By treaty Russia Alaska c

Estimated cost of War of Independence, \$168,000,000. Purchased for \$15,000,000. c Cost \$3,000,000. Debt of Texas on admission into the Union, \$7,500,000. Estimated cost of the Mexican War, \$15,000,000. Cost \$10,000,000. g Cost \$7,200,000.

AGE.—A man's working life is divided into four decades: 20 to 30, bronze; 30 tò 40, silver; 40 to 50, gold; 50 to 60, iron. Intellect and judgment are strongest between 40 and 50. The percentages of population to age in various countries are shown thus:

	PERCENTA	Average ag		
COUNTRY.	Under 20 Years.	From 20 to 60	Over 60.	of all living Years.
United States England Scotland Ireland France Germany Italy Austria Greece Spain Brazil Belgium	46 46 36 43 44 43 48 42 46 40	45 47 45 43 52 49 50 47 50 47 55 45	5 7 9 11 12 8 7 7 5 6	24.9 27.1 27.4 28.6 32.2 28.0 27.6 27.7 25.5 27.2 27.3 29.7 28.3
Holland Denmark Sweden Norway	42 43	49 50 49 48	8 8 9	28.4 28.0 28.0

The Americans are the youngest, the French the oldest.

AIR.—In its pure state air is composed thus: Nitrogen, 77; oxygen, 21; other components, 2; total, 100.

The percentage of oxygen varies as follows: Sea-shore, 21.00; confined houses, 20.75; mines, 20.50; when candles go out, 18.50.

The percentage of carbonic acid ranges thus: In country, .03; in town, .04; in hospitals, .05; in fogs, .07; in crowded lanes, 13; in theaters, 30.

Each adult inhales a gallon of air per minute, and consumes daily 30 oz. of oxygen. For the conversion of this oxygen a certain amount of food is required—say 13 oz. of carbon for a male, and 11 oz. for a female, equivalent to 3 lbs. bread and 2½ lbs. respectively.

ALCOHOL.—The degrees in wines and liquors are: Beer, 4.0; porter, 4.5; ale, 7.4; cider, 8.6; perry, 8.8; elder, 9.3; Moselle, 9.6; Tokay, 10.2; Rhine, 11.0; Orange, 11.2; Bordeaux, 11.5; hock, 11.6; gooseberry, 11.8; champagne, 12.2; claret, 13.3; Burgundy, 13.6; Malaga, 17.3; Lisbon, 18.5; Canary, 18.8; sherry, 19.0; Vermouth, 19.0; Cape, 19.2; Malmsey, 19.7; Marsala, 20.2; Madeira, 21.0; port, 23.2; curacoa, 27.0; aniseed, 33.0; Maraschino, 34.0; Chartreuse, 43.0; gin, 51.6; brandy, 53.4; rum, 53.7; Irish whisky, 53.9; Scotch, 54.3.

Spirits are said to be "proof" when they contain 57 per cent. The maximum amount of alcohol, says Parkes, that a man can take daily without injury to his health is that contained in 2 oz. brandy, 1/2 pt. of sherry, 1/2 pt. of claret, or 1 pt. of beer.

ALCOHOLIC LIQUORS.—A table of the comparative consumption of alcoholic liquors was compiled by the London Times in 1885, with some interesting results. The average yearly consumption per head is given in liters (a liter is a little less than a quart):

-	Spirits. Liters.	Wine. Liters.	Beer. Liters.
Canada	3.08	0.29	8.51
Norway		τ.00	15.30
United States	4.79	2.64	31.30
Great Britain and Ireland	5.37	2.09	143.92

Austria-Hungary 5.76	22.40	28.42
France 7.28	110.20	21.10
Russia 8,08	Unknown.	4.65
Sweden 8.14	0.36	11.00
German Zollverein 8.60	6.00	65,00
Belgium	3.70	169.20
Switzerland15.30	55.00	37.50
Netherlands 9.87	2.57	27.00
Denmark,18.90	1.00	33.33

Belgium, it seems, contains the greatest number of beerdrinkers, with Great Britain second in this list, and Germany, contrary to common opinion, only third. France drinks the most wine, and Switzerland comes next, while the amount accredited to the United States, though comparatively small, yet exceeds that of Great Britain. Canada is the most moderate drinker of all.

ANIMALS.

Weight	Years	Weight	Years
(lbs).	of Life.	(lbs).	of Life.
Rabbit 2	5	Cow 750	25
Dog 10	12	Ox 900	25
Sheep 70	12	Horse	27
Pig 160	10	Camel1,200	40
Lion 500	40	Elephant 6,000	100

AQUEDUCTS.—Among modern works the most famous are:

	. Miles.	daily.	Cost.
Croton (New York)	4I	88	\$ 9,000,000
Madrid	47	40	11,500,000
Marseilles	51	60	2,250,000
Glasgow	34	50	7,775,000
Washington	16	00	

Rome, in the time of the Cæsars, had nine aqueducts, measuring 249 miles in the aggregate, and with a daily capacity of 320,000,000 gallons, or 200 gallons per inhabitant. The great aqueduct of Peru, built by the Incas, was 360 miles long.

ARMY.—Proportions.—According to Napoleon the proportions of an army should be 70 per cent infantry, 17 per cent cavalry, and 13 per cent between artillery, engineers and train.

Death rate.—In active service the death rate among officers is heavier than among the rank and file. The Duke of Wellington's army roll from 1811 to 1814 showed the following percentage:

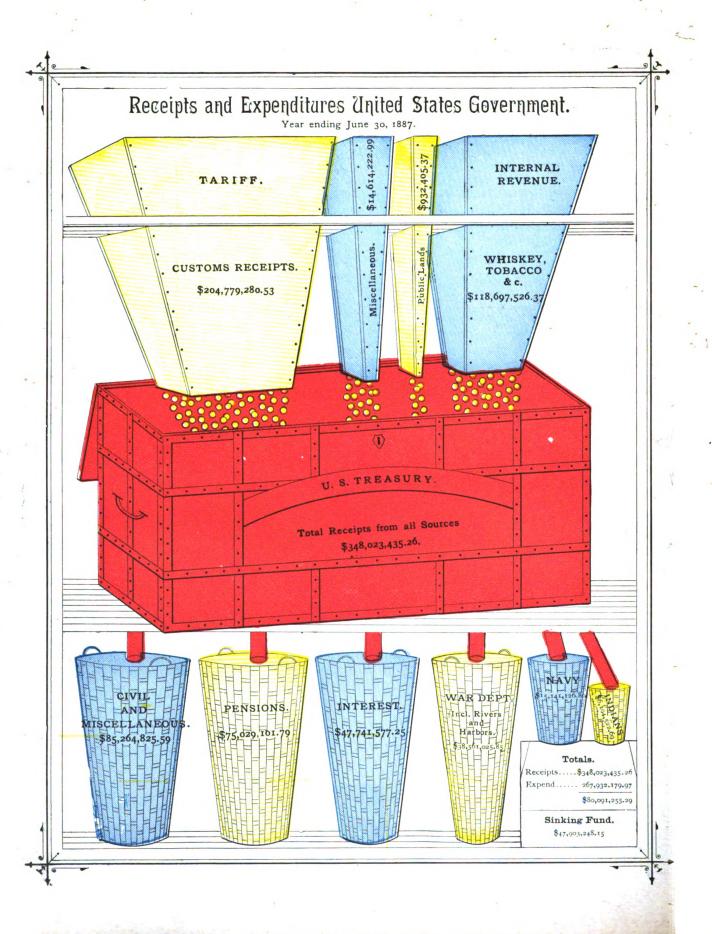
. •	Officers.	Men.
Killed	. 14.5 ·	10.2
Wounded	. 81.0	49.0 38.0
Died of Disease	. 13.0	38. 0

Able-bodied.—The percentage of men capable of bearing arms in various countries is as follows: England, 23; Scotland, 22; Ireland, 22; France, 27; Avstria, 25; Germany, 24; Italy, 25; Belgium, 25; Holland, 25; Spain, 26; Denmark, 25; Sweden, 25; Norway, 24; United States, 23; Greece, 23.

See diagram Military and Naval Strength, page 335.

ARTILLERY.—At the close of the Franco-German war the Germans took from the French 7,234 pieces of cannon, including 3,485 field pieces and 3,300 fortress guns. At the battle of Waterloo the British artillery fired 9,467 rounds, or one for every Frenchman killed. See Ordnance.

AUTHORS.—Goldsmith received \$300 for the "Vicar of Wakefield;" Moore, \$15,500 for "Lalla Rookh;" Victor Hugo, \$12,000 for "Hernani;" Chateaubriand, \$110,000 for his works; Lamartine, \$16,000 for "Travels in Palestine;" Disraeli, \$50,000 for "Endymion;" Anthony Trollope, \$315,000 for forty-five novels; Lingard, \$21,500 for his "History of England."



10

BALLOONS.—The most remarkable ascents on record:

Date.	Aeronaut.	Place of Ascent.	Height. Yards.	Distance. Miles.
1804 1836 1850	Gay Lussac Holland Wise	Lyons	7,700	500 1,150

During the stege of Paris—September, 1870, to February, 1871—there were 64 balloons sent up, containing 91 passengers, 354 pigeons, and 3,000,000 letters (weighing 9 tons).

Mr. Glaisher states that in 3,500 balloon ascents only 15 deaths have occurred, that is, about four per thousand.

BANKING.—The capital employed in banking in the principal countries is as follows: Great Britain, \$4,020,000,000; United States, \$2,655,000,000; Germany, \$1,425,000,000; France, \$1,025,000,000; Austral, \$830,000,000; Russia, \$775,000,000; Italy, \$455,000,000; Australia, \$425,000,000; Canada, \$175,000,000.

On September 1, 1884, there were 2,582 national banks in the United States, with a capital of \$518,605,725, and a surplus of \$147,721,475. The dividends for six months aggregated \$20,171,668, and total net earnings for same time, \$24,368,019.

Since 1840 the banking of the world has increased about eleven-fold, that is, three times as fast as commerce, or thirty times faster than population.

BAROMETER.—The mean height of barometer varies according to latitude as follows:

Degree of Latitude,	Ī	Barometer.	Degree of Latitude.	f	Barometer.
10		29. 98	45		30.00
30		30.06	50	• • • • • • • • • • • • • • • • • • • •	29.81
30		30.11		• • • • • • • • • • • • • •	29.8o
40		30.02	67		29.67
It ver	ies according	to elevation	n as falls		

	Feet	Mean Barometer.		Feet	Mean
		Darometer.		DOVE SEE.	Barometer.
Sea level		30.∞	Madrid	1,995	27.72
Rome	. 151	29.7 6	St. Rémy	5,265	24.45
Milan		29.45 28.82	St. Gothard	6,808	23.07
Moscow			Mexico	7,471	22.52
Geneva		28.54	Bogota	8,731	21.42
Munich	, 1,765	27-95	Quito	9.541	20.75

Mr. Glaisher's barometer in his various balloon ascents marked as follows: At a height of 1 mile, 24.7 in.; 2 miles, 20.3 in.; 3 miles, 16.7 in.; 4 miles, 13.7; 5 miles, 11.3.

BARRENNESS.—One woman in 20, one man in 30—about 4 per cent. It is found that one marriage in 20 is barren—5 per cent. Among the nobility of Great Britain, 21 per cent have no children, owing partly to intermarriage of cousins, no less than 4½ per cent being married to cousins.

BATTLES.—The numbers placed hors-de-combat are not relatively so large as formerly, as the table below will show:

	Men Engaged.	Hors-de-combat.	P	latio.
Thrasymene	65,000	17,000	27 P	er cent
Cannse	146,000	52,000	34	"
Bannockburn	135,000	38,000	34 28	"
Agincourt	62,000	11,400	18	"
Crecy	117,000	31,200	27	"
Marengo	58,000	13,000	22	**
Austerlitz	170,000	23,000	13	"
Borodino	250,000	78,000	31	"
Waterloo	145,000	51,000	35	"
Alma	103,000	8,400	ž	"
Sadowa	402,000	33,000	8	• •
Gravelotte	320,000	48,500	15	**
Gettysburg	140,000	8,000	5	"
See also diagram,	page 335.			

BAYS,—Length in miles (approximate): Hudson's, about 1,200; Baffin's, about 600; Chesapeake, about 250.

BEER.—See Alcoholic Liquors. See also diagram, Beer Production.

BEES.—The largest bee-owner in the world in 1884 was Mr. Harbison, of California, who had 6,000 hives, producing 200,000 lbs. honey yearly, worth \$40,000. There are in the United States 70,000 bee-growers, but the average which they get from their hives is only 22 lbs., whereas the average in England is 50 lbs., and some hives have given as high as 120 lbs. A hive consists of about 5,000 bees, and will multiply ten-fold in five years. Bees eat 20 lbs. of honey in making a pound of wax.

BELLS.—The largest bells are the following, and their weight is given in tons: Moscow, 202; Burmah, 117; Pekin, 53; Novgorod, 31; Notre Dame, 18; Rouen, 18; Olmutz, 18; Vienna, 18; St. Paul's, 16; Westminster, 14; Montreal, 12; Cologne, 11; Oxford, 8; St. Peter's, 8.

Bell-metal should have 77 parts copper, and 23 tin.

BIBLE.—No fewer than 1,326 editions of the Bible were published in the sixteenth century. In the seventeenth and eighteenth centuries it was translated and published in many languages by the polyglot press of Propaganda Fide at Rome. In the nineteenth century the English and American societies have printed, in the Protestant version, 124,000,000 copies of the Bible or of the New Testament, viz.: British, 74,000,000; American, 32,000,000; other societies, 15,000,000 copies.

The King James version of the Bible contains 3,566,480 letters, 773,746 words, 31,173 verses, 1,189 chapters, and 66 books. The word and occurs 46,277 times. The word Lord occurs 1,855 times. The word Reverend occurs but once, which is in the 9th verse of the 111th Psalm. The middle verse is the 8th verse of the 118th Psalm. The 21st verse of the 7th chapter of Ezra contains all the letters of the alphabet except the letter J. The 19th chapter of II Kings and the 37th chapter of Isaiah are alike. The longest verse is the 9th verse of the 8th chapter of Esther. The shortest verse is the 35th verse of the 11th chapter of St. John. There are no words or names of more than six syllables.

BICYCLE.—The bicycle stands fourth as regards the time taken to cover a mile. The following table gives the various ways of going a mile, and the least time required:

M	in. Sec.		Min		
Locomotive	50 1-4	Running man	4	12	3-4
Running horse	1 39 3-4	Rowing	5	01	
Trotting horse	2 00 1-4	Snow-shoes	5	39	3-4
Bicvcle	2 20 4-5	Walking	6	23	
Skating	2 12	Swimming	13	42	1-4
Tricycle					

BIRDS.—A hawk flies 150 miles per hour; an eider duck, 90 miles; a pigeon, 40 miles. See Carrier-Pigeons.

BLIND.—The number of blind in the United States in 1880 was 48,930, or at the rate of 97 per 100,000 population. The ratio of sexes was 55 male to 45 female.

BL000.—The human heart beats 74 times a minute, sending each time 10 lbs. of blood through the veins and arteries. The system of an adult averages 28 lbs. of blood. The elements of human blood are as follows:

	Man.	Woman.
WaterAlbumen	77.8	79.6
Color	14.1	12.2
Saline, etc	1.9	1.8
	100.0	100.0

The amount of iron in human blood and that of some animals is as follows: Man, 0.91 oz. per cwt.; ox, 1 oz.; pig, 1.06 oz.; frog, 0.75 oz.

BOOKS.—The terms folio, quarto, octavo, etc., indicate the number of leaves into which a sheet of paper is folded in making a book, and the number of pages in each sheet is termed a signature; and for convenience in use the signatures in books are numbered by figures placed at the bottom of the first page of the signature. A folio book or paper is made of sheets folded in 2 leaves; a quarto (or 4to) of sheets folded into 4 leaves; an octavo, 8 leaves; duodecimo (12mo), 12 leaves; 18mo, in 18 leaves; a 24mo, in 24 leaves; a 32mo, in 32 leaves, etc.

About 100 new works are published daily, or 30,000 per annum, without taking into account new editions of old books. The annual average of new books from 1878 to 1880 was as follows: Great Britain, 5,771; France, 7,000; Germany, 14,560; United States, nearly 3,000. The number for the United States in 1883 had risen to 3,481, and in 1884 over 4,000 new works were issued.

In the year 690 the Duke of Northumberland gave 800 acres of land for one volume of history. Later on a pious farmer sold two loads of hay on Cornhill for a copy of the Epistle of Jude, an epistle containing only twenty-five verses. A devout countess of this same age gave 200 sheep and a large parcel of rich furs for a volume of sermons. In the year 1420, when London Bridge was building, a Latin Bible cost \$120, which was more than it cost to build two arches of London Bridge. A laboring man only earned three cents a day in that time, and it would have taken the earnings of fifteen years for him to have bought a Bible. This will explain, in part, how it was that Bibles were chained up in churches.

A good, steady reader will not be able to read more than thirty pages of an average 12mo book in an hour. Now let us suppose the case of such a reader; let him read eight hours a day, six days a week, all the year round. He will read 240 pages a day, 1,440 pages a week, making an average of three good-sized volumes of 480 pages a week, or 150 volumes per annum. But there are over 30,000 volumes published per annum, so that the publishers get ahead of this reader at the rate of over 30,000 books every year. In the course of a quarter of a century, this diligent reader, if he never fails a day, is never sick, never takes a vacation, will have read only 3,750 volumes. Of course this illustration is exaggerated. No man could read at this rate without becoming raving mad before the end of the first year. These figures serve to show that a wise man must be content to leave a great deal unread. When we hear men described as bookworms, and others boasting of being well read, we may well smile as we think how little the worm has been able to accomplish, and how much the well-read man has left unread. The difficulty which this great wealth of literature presents can only be wisely met in one way. We must be content

to read only a little, but if our reading is not to degenerate into the merest idleness, we must be careful that the little we read is worth the time we give it. A man who will read and master a dozen good books a year, will, in a few years, be a well informed, educated man; but the man who rushes through a great number of books for mere pastime will add about as much to his mental wealth as if he had been pouring water through a sieve.

BRAIN.—The latest classification of races, according to Bastian and other experts, shows weight of brain, in ounces, as follows: Scotch, 50.0; Germans, 49.6; English, 49.5; French, 47.9; Zulus, 47.5; Chinese, 47.2; Pawnees, 47.1; Italians, 46.9; Hindoo, 45.1; Gypsy, 44.8; Bushmen, 44.6; Esquimaux, 43.9. Compared with size of body, the brain of the Esquimaux is as heavy as the Scotchman's.

The measurement of that part of the skull which holds the brain is stated in cubic inches thus: Anglo-Saxon, 105; German, 105; Negro, 96; Ancient Egyptian, 93; Hottentot, 58; Australian native, 58.

In all races the male brain is about 10 per cent heavier than the female. The highest class of apes has only 16 oz. of brain.

A man's brain, it is estimated, consists of 300,000,000 nerve cells, of which over 3,000 are disintegrated and destroyed every minute. Every one, therefore, has a new brain once in sixty days. But excessive labor, or the lack of sleep, prevents the repair of the tissues, and the brain gradually wastes away. Diversity of occupation, by calling upon different portions of the mind or body, successively affords, in some measure, the requisite repose to each. But in this age of overwork there is no safety except in that perfect rest which is the only natural restorative of exhausted power. It has been noticed by observant physicians in their European travels that the German people, who, as a rule, have no ambition and no hope to rise above their inherited station, are peculiarly free from nervous diseases; but in America, where the struggle for advancement is sharp and incessant, and there is nothing that will stop an American but death, the period of life is usually shortened five, ten, or twenty years by the effects of nervous exhaustion.

After the age of 50 the brain loses an ounce every ten years. Cuvier's weighed 64, Byron's 79, and Cromwell's 90 ounces, but the last was diseased. Post-mortem examinations in France give an average of 55 to 60 ounces for the brains of the worst class of criminals.

BRIDGES.—The great bridges of the world are as follows:

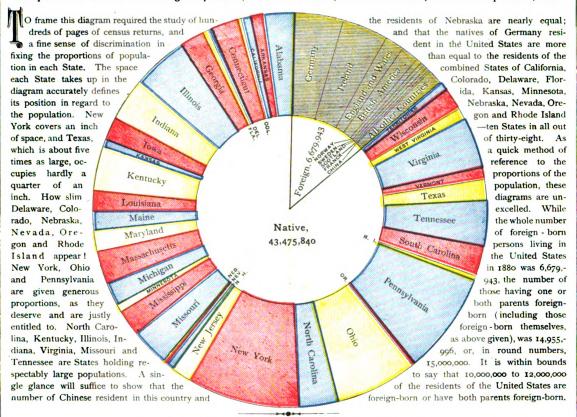
LOCATION.	Material.	CHARACTER.	Total Length. (Feet.)	Longest Span. (Feet.)
Brooklyn, N. Y Poughkeepsie, N. Y. Omaha, Neb Cincinnati, O. St. Louis, Mo. Pittsburgh, Pa Leavenworth, Kas. New Niagara, N. Y. Britannia, Menai Strait. Victoria, Montreal, Can Fribourg, Switzerland. Waterloo, London, Eng	Iron Iron Iron Steel Iron Iron Iron Iron Iron Iron Iron Iron	Truss Post truss Suspension Segmental arch Suspension Post truss Suspension Tubular Tubular Suspension Suspension Suspension	5,989 4,595 2,750 2,220 1,550 1,245 1,000 1,376 6,538	1,595 525 250 1,057 520 800 340 1,229 459 330 889

COMPARATIVE DENSITY OF POPULATION.

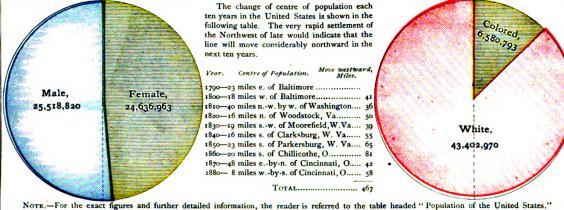
POPULATION.	SQUARE MILES	STATES AND TERRITORIES.	ÍNHAB'TS TO SQ. MILE.	IN	HAB'TS TO SQ. MILE.	COUNTRIES.	SQUARE MILES	POPULATION
20,789	97,575	Wyoming	0:21		1.12	Australian Colonies	3,115,861	3,490,000
39,159	145,310	Montana	0.27	-1	1.35	Canada	3,204,381	4,352,080
40,440	112,920	Arizona	0.35		2.90	Argentine Republic	827,177	2,400,000
32,610	84,290	Idaho	0.38		3.14	Brazil	3,218,166	10,108,29
62,266	109,740	Nevada	0.56		3.19	Paraguay	91,980	293,84
135,177	147,700	Dakota	0.91		4.06	Venezuela	439,119	1,784,19
119,565	122,460	New Mexico	0.97		4.15	Bolivia	500,740	2,080,00
75,116	66,880	Washington	1.12		4.6r	Ecuador	248,313	1,146,00
143,963	82,190	Utah	1.75		6.19	Uruguay	72,151	447,00
174,768	94,560	Oregon	1.84		9.20	U. S. of Colombia		2,951,32
194,327	103,645	Colorado	1.87		10.11	Russian Empire		82,330,86
269,493	54,240	Florida	4,96		II.	Persia	636,203	7,000,00
864,694	155,980	California	5.54	4	12.66	Mexico	741,598	9,389,46
452,402	76,185	Nebraska	5.93	4	14.71	Norway	122,823	1,806,90
1,591,749	262,290	Texas	6.06	4	15.19	Egypt	1,152,984	17,419,98
780,773		Minnesota	9.85	4	19.34	Chili	124,084	2,400,39
996,096		Kansas	12.19	L	20.31	Morocco	313,560	6,370,00
802,525	55,045	Arkansas	14.57		20.42	Siam	280,564	5,750,00
939,946	45,420	Louisiana	20.69		26.51	Sweden	170,927	4,531,86
648,936		Maine	21.70		29.10	Turkey	860,322	25,036,48
1,315,497	54,455	Wisconsin	24.15		42.11	Peru	72,413	3,050,00
1,131,597		Mississippi	24.43		83.91	Greece	20,018	1,679,77
1,262,505		Alabama	24.49	(N. C.)	84.55	Spain	193,171	16,333,29
618,457	24,645	West Virginia	25.09		84.64	Servia	18,781	1,589,65
1,542,180	58,980	Georgia	26.15		95.31	Chinese Empire	4,560,107	400,000,00
1,636,937	57,430	Michigan	28.50	A LETTER	107.17	Roumania	50,159	5,376,00
1,399,750		North Carolina	28.81		111.65	Ceylon	24,702	2,758,16
1,624,615		Iowa	29.28		125.69	Portugal	34,595	4,348,55
2,168,380	68,735	Missouri	31.54		133.21	Denmark	14,784	1,969,45
995,577	30,170	South Carolina	32.99		156.98	Austria-Hungary	240,415	37,741,41
332,286	9,135	Vermont	36.37		177.10	Switzerland	15,908	2,831,78
1,542,359	41,750	Tennessee	36.94		180.88	France	204,030	36,905,78
1,512,565	40,125	Virginia	37.69		216.62	Germany	208,624	45,194,17
346,991		New Hampshire	38.53		234.28	Japan		34,338,40
1,648,690		Kentucky	41.21		246.63	Italy	1.0	
3,077,871	56,000	Illinois	54.96		289.92	Gr. Brit. and Irel		35,246,63
1,978,301	00.7	Indiana	55.09		311.57	British India	1	252,541,21
146,608		Delaware	74.80	1 3 1 - 3 4 - 3 - 3	312.86	Netherlands		3,981,88
3,198,062		Ohio	78.46		481.71	Belgium	11,369	5,476,66
934,943		Maryland	94.82	-				
4,282,891		Pennsylvania				COMPARISONS	3.	
5,082,781	47,620	New York	106.73	Ka	nsas, to be as thickly	settled as Germany, wo	ould have a	
622,700	4,845	Connecticut	128.52					17,697,85
1,131,116	7.455	New Jersey	151.72	151.72 Texas, as France, 47,443,015				
1.783,085	8,040	Massachusetts	221.77		lifornia as New York			16,647,77
276,531	1,085	Rhode Island	254.86		kota as Massachuset			32,755,42
50,155,784	3,602,990	United States	13.92	Th	e whole U. S. as Bel	gium,		1,735,596,31

⇒CURIOSITIES OF THE CENSUS.←

Proportions of Native and Foreign Population, Male and Female, White and Black; Centre of Population, etc.



The centre of population is defined as "the point at which equilibrium would be reached were the country taken as a plane surface itself, without weight, but capable of sustaining weight, and loaded with its inhabitants in number and position as they are found at the period under consideration, each individual being assumed to be of the same gravity as every other, and consequently to exert pressure on the pivotal point directly proportioned to his distance therefrom." In brief, it is the centre of gravity of the population of the country. It is located eight miles west-by-south from the heart of the city of Cincinnati, which places it in Kentucky, one mile from the south bank of the Ohio River.



The Brooklyn Bridge cost \$15,000,000, having taken 13 years in construction, during which 20 lives were lost. Width 85 feet, height above water 135 feet. Weight 34,000 tons. There are 3,200 tons wire, section 580 square inches, strength 75 tons per square inch. Each of the four cables has 5,000 wires of 1/8 inch. There are two towers, 274 feet high, and 1,600 feet apart. The central way is 15 feet wide, for pedestrians; each of the railway lines has 16 feet width, and each of the ways for wagons, horses, etc., 19 feet; in all 85 feet.

The Forth Bridge (Scotland) is to cost \$7,500,000. Main girder, 5,330 feet; total length, 2,700 yards.

BUILDINGS.—Capacity of the largest public buildings in the world: Coliseum, Rome, 87,000; St. Peter's, Rome, 54,000; Theater of Pompey, Rome, 40,000; Cathedral, Milan, 37,000; St. Paul's, Rome, 32,000; St. Paul's, London, 31,000; St. Petronia, Bologna, 26,000; Cathedral, Florence, 24,300; Cathedral, Antwerp, 24,000; St. John Laterar, Rome, 23,000; St. Sophia's, Constantinople, 23,000; Notre Dame, Paris, 21,500; Theater of Marcellus, Rome, 20,000; Cathedral, Pisa, 13,000; St. Stephen's, Vienna, 12,400; St. Dominic's, Bologna, 12,000; St. Peter's, Bologna, 11,400; Cathedral, Vienna, 11,000; Gilmore's Garden, New York, 8,443; Mormon Temple, Salt Lake City, 8,000; St. Mark's, Venice, 7,500; Spurgeon's Tabernacle, London, 6,000; Bolshoi Theater, St. Petersburg, 5,000; Tabernacle (Talmage's), Brooklyn, 5,000; Music Hall, Cincinnati, 4,824; La Scala, Milan, 3,600.

CALENDAR.—1. Jewish, 383 days; the Jewish year 5645 began on September 20, 1884.

- 2. Julius Cæsar's, 365 days, B.C. 46, commenced in March.
- 3. Mahometan, 355 days, A.D. 622; the Mahometan year 1301 began February 19, 1884.
- 4. Charles IX., A.D. 1564, commenced January 1.
- 5. Pope Gregory XIII., A.D. 1582; now used except in Russia.
- 6. The Russian year begins on January 13 of our calendar. The Gregorian calendar was adopted in England in 1752, before which date the year began on March 25, which would now be April 6.

The festival of Easter, commemorating the resurrection of Christ, used to be observed on the 14th day of the moon, i. e., near the full moon—the same as the Jewish Passover. But the Council of Nice, A.D. 325, ordered Easter to be celebrated on the Sunday next succeeding the full moon, that comes on or next after the vernal equinox—March 21, thus making Easter and the related feast and fast days movable holidays.

CAMELS.—A camel has twice the carrying power of an ox; with an ordinary load of 400 lbs. he can travel 12 or 14 days without water, going 40 miles a day. Camels are fit to work at 5 years old, but their strength begins to decline at 25, although they live usually till 40.

CANALS.—The great canals of the United States and other countries are given below, with length in miles and cost of construction:

		Miles.	Cost.
Suez	France	158	\$85,000,000 11,000,000 10,150,000

BengalIndia	90	000,000,000
Chesapeake & OhioMary	land 10	
Delaware & HudsonN. Y	. & Pa 10	
Illinois & MichiganIllino	is 10	2 8,600,000
ErieNew	York 36	
WellandCana	da 4	
CaledonianScotl	and 6	
Central DivisionPenn	sylvania 17	
James R. & KanawhaVirgi	nia 14	
Ohio & ErieOhio	30	
MiamiOhio	17	
Morris & EssexNew	Jersey 10	
Wabash & Erie India	na 46	

The Suez Canal is 26 feet deep, and was 13 years in construction. Steamers go through in 40 hours, of which 17 steaming, and the tolls average \$4,300 per vessel. The saving to commerce by reason of this canal, after deducting fees paid, is estimated at over \$10,000,000 yearly. The British Government owns one-fifth of the shares. The canal shortens the distance between England and the East by one-third. The estimated cost of the Panama Canal is \$130,000,000. The length will be 46 miles, including a tunnel 4 miles in length, 100 feet wide and 160 feet high. When completed this canal will save about 10,000 miles of voyage between Europe and the Pacific.

CARBONIC ACID.—The quantity exhaled in 24 hours:

12.2	Age.	Oz. Exhaled.	i .	Age.	Oz. Exhaled,
Girl	10	9	Boy	16	16
Boy	10	10	Man	28	17
Woman	10	10			

The quantity varies according to exertion, namely: Sleeping, 0.6 oz. per hour; walking 2 miles per hour, 2.1; walking 3 miles per hour, 3.0; riding, 4.0; swimming, 4.4; treadmill, 5.5.

CATTLE .- See diagram.

CARRIER-PIGEONS. — In 1877 the newspaper Nationale of Paris had ten pigeons which carried dispatches daily between Versailles and Paris in fifteen to twenty minutes. In November, 1882, some pigeons, in face of a strong wind, made the distance of 160 miles, from Canton Vaud to Paris, in 6½ hours, or 25 miles per hour.

CHARCOAL.—To make a ton will require wood as follows: Oak, 4.4 tons; chestnut, 4.5; beech, 5.1; elm, 5.2; birch, 5.9; pine, 6.0. For heating power 12 lbs. charcoal are equal to 10 lbs. coal or 13 lbs. coke.

CHECKS.—The checks paid in New York and London in one month aggregate \$6,350,000,000, which is greatly in excess of the value of all the gold and silver coin in existence.

CHEMISTRY.—Below are given the common names of various chemical substances:

Aqua Fortis Aqua Regia Blue Virrol Cream of Tartar Calomel Chalk Salt of Tartar Caustic Potassa Chloroform Common Salt	. Nitro-Muriatic Acid Sulphate of Copper Bitartrate Potassium Chloride of Mercury Carbonate Calcium Carbonate of Potassa Hydrate Potassium Chloride of Gormyle.
Copperas, or Green Vitriol	Sulphate of Iron.
Corrosive Sublimate	Pure Carbon.
Dry Alum	Sulphate Alluminum and Potassium.
Epsom Salts	Sulphate of Magnesia.
Ethiops Mineral	Black Sulphide of Mercury.
Galena	Sulphide of Lead.
Glauber's-Salt	Sulphate of Sodium.
Glucose	Grape Sugar.
Iron Pyrites	Bi-Sulphide Iron.
Jeweler's Putty	Oxide of Tin,

1

Ring's Yellow Sulphide of Arsenic.
Laughing-Gas Protoxide of Nitrogen.
Lime Oxide of Calcium.
Limar Caustic Nitrate of Silver.
Muriate of Lime Chloride of Calcium.
Niter of Salpeter Nitrate of Potash.
Oil of Vitriol Sulphuric Acid.
Potash Oxide of Potassium.
Realgar Sulphide of Arsenic.
Red Lead Oxide of Lead.
Rust of Iron Oxide of Iron.
Salmoniac Muriate of Ammonia,
Slacked Lime Hydrate Calcium.
Soda Oxide of Sodium.
Spirits of Hartshorn Ammonia.
Spirit of Salt Hydro-Chloric or Muriatic Acid.
Stucco, or Plaster of Paris Sulphiae of Lime.
Sugar of Lead Acetate of Lead,
Verdigris Basic Acetate of Copper,
Vermillon Sulphide of Mercury
Vinegar Acetic Acid Cilluted),
Volatile Alkali Ammonia.
Water Oxide of Hydrogen.
White Precipitate Ammonianiated Mercury.
White Vitriol Sulphate of Zinc.

CHILDBIRTH.—The average of deaths in childbirth for 20 years in England and Wales has been 32 per 10,000 births—
1½ per cent of all mothers, since the average mother has five children.

CHOLERA.—In the visitation of 1866, the proportion of deaths per 10,000 inhabitants in the principal cities of Europe was as follows: London, 18; Dublin, 41; Vienna, 51; Marseilles, 64; Paris, 66; Berlin, 83; Naples, 89; St. Petersburg, 98; Madrid, 102; Brussels, 184; Palermo, 197; Constantinople, 738.

CHRISTIANITY.—See diagram Distribution of Christians.
CLIMATE.—The mean annual temperature at a given point in each of the forty-nine States and Territories, and also in Alaska, is shown in the following table:

Mean annual p	Mean
PLACE OF OBSERVATION. BRITISH STATE OF OBSERVATION. PLACE OF OBSERVATION.	annual temper- ature.
Mobile, Ala	55° 43° 49° 50° 53° 53° 54° 58° 58° 58° 58° 58° 58° 58° 58° 58° 58

COAL.—See diagram Annual Production of Coal.

COFFEE.—The production in 1880 was: Brazil, 333,000 tons; Java, 90,000; Ceylon, 53,000; West Indies, 42,000; Africa, 36,000; Manilla, etc., 35,000. Total, 589,000 tons.

The average annual consumption is as follows: United States, 165,000 tons; Germany, 110,000; Brazil, 62,000; France, 55,000; Belgium and Holland, 50,000; Austria, 40,000; British

Colonies, 38,000; Russia, 20,000; United Kingdom, 15,000; Italy, 14,000.

The coffee fields of Brazil cover 2,000,000 acres, with 800,000,000 trees—that is, 400 per acre, each tree averaging almost 1 lb. per annum., the industry employing 800,000 hands.

COMMERCE.—The following table, prepared at the Bureau of Statistics, Washington, exhibits the steady increase of the trade of the United States during the past twenty years. Nearly the whole amount of merchandise exported is of home growth or manufacture, that of foreign origin exported in 1881 not exceeding two per cent of the whole amount. It is noticeable that for the first fourteen years the imports exceeded the exports, but that during the past six years the balance of trade has been in favor of the country. These figures represent the specie values of merchandise only:

Year.	Exports.	Imports.	Total.
1861	\$219,553,833	\$280,310,542	\$508,864,375
1862	190,670,501	189,356,677	380,027,178
1863	203,964,447	243,335,815	447,300,202
z864	158,837,988	316,447,283	475,285,271
£865	166,029,303	238,745,580	404,774,883
z866	348,859,522	434,812,066	783,671,588
z867	294,506,141	395,761,096	690,267,237
z868	281,952,899	357,436,440	639,389,339
1869	286,117,697	417,506,379	703,624,076
t870	392,771,768	435,958,408	828,730,176
1871	442,820,178	520,223,684	963,043,862
1872	444,177,586	626,595,077	1,070,772,663
£873	522,476,922	642,136,210	1,164,616,132
1874	586,283,040	567,406,342	1,153,689,382
1875	513,442,711	533,∞5,436	1,046,448,147
1876	540,384,671	460,741,190	1,001,125,861
1877	602,475,220	451,323,126	1,053,798,346
1878	694,865,766	437,051,532	1,131,917,298
1879	710,439,441	445,777,775	1,156,217,216
r880	835,638,658	667,954,746	1,503,593,404
z88z	902,377,346	642,664,628	1,545,041,974
1882	750,542,257	724,639,574	1,475,181,831
r883	823,839,402	723,180,914	1,547,020,316
1884	740,513,609	667,697,693	1,408,211,302

See also diagram Commercial Balance-Sheet.

CONSUMPTION.—Of the total number of deaths the percentage traceable to consumption in the several States and Territories is as follows: Alabama, 9.6; Arizona, 6.1; Arkansas, 6.4; California, 15.6; Colorado, 8.2; Connecticut, 15.1; Dakota, 8.8; Delaware, 16.1; District of Columbia, 18.9; Florida, 8.3; Georgia, 7.9; Idaho, 6.8; Illinois, 10.3; Indiana, 12.6; Iowa, 9.9; Kansas, 7.3; Kentucky, 15.7; Louisiana, 10.4; Maine, 19.2; Maryland, 14.0; Massachusetts, 15.7; Michigan, 13.2; Minnesota, 9.3; Mississippi, 8.8; Missouri, 9.8; Montana, 5.6; Nebraska, 8.8; Nevada, 6.3; New Hampshire, 5.6; New Jersey, 8.9; New Mexico, 2.4; New York, 8.1; North Carolina, 9.5: Ohio, 13.8; Oregon, 12.1; Pennsylvania, 12.6; Rhode Island, 14.6; South Carolina, 9.8; Tennessee, 14.5; Texas, 6.5; Utah, 2.8; Vermont, 16.1; Virginia, 12.2; Washington, 13.2; West Virginia, 13.0; Wisconsin, 10.4; Wyoming, 2.6. Average, 12.0.

COPYING.—Seventy-two words make I folio, or sheet of common law; 9 words, I folio, in chancery.

COTTON.—The area under cotton in the United States is increasing very rapidly:

 Year.
 Acres.
 Crop, Million lbs.

 1881.
 13,613,000
 3,162

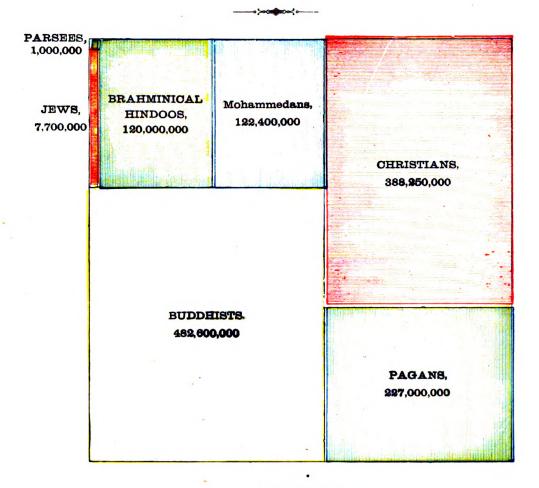
 1882.
 16,590,000
 3,550

 1883.
 17,483,000
 3,80

See diagram World's Yearly Production of Cotton and To-

→ THE RELIGIONS OF THE WORLD.

(FROM THE VERY LATEST ESTIMATES.)



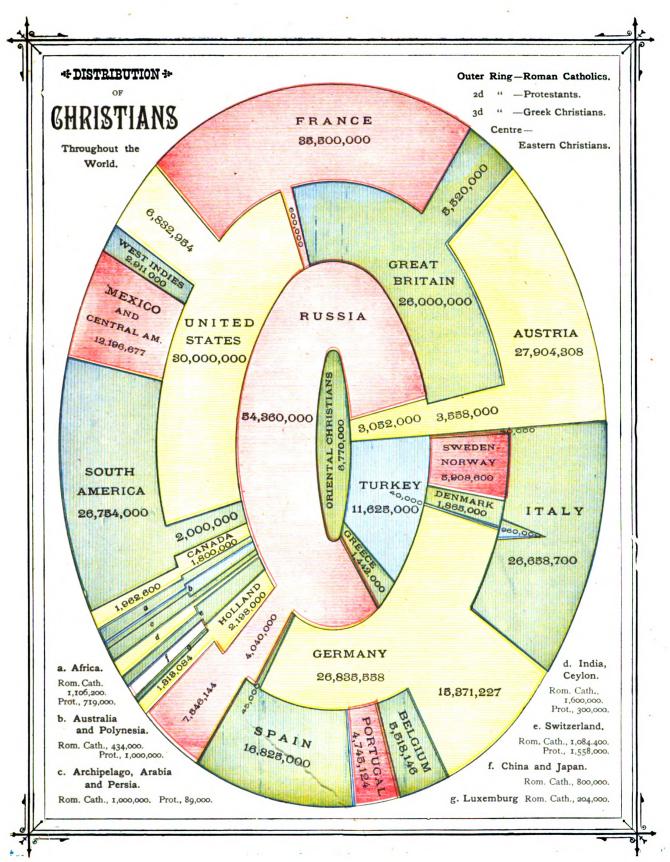


Roman Catholic, 202,368,000

Protestant, 108,630,000

Greek, 70,482,000

Eastern, 6,770,000



CREMATION.—A body weighing 140 lbs. produces 3 lbs. ashes; time for burning, 55 minutes.

GRISES.—The most remarkable since the beginning of the present century have been as follows:

1814. England, 240 banks suspended.
1825. Manchester, failures 2 millions.
1831. Calcutta, failures 15 millions.
1837. United States, "Wild-cat" crisis; all banks closed.
1839. Bank of England saved by Bank of France. Severe also in France, where 93 companies failed for 6 millions.
1844. England, State loans to merchants. Bank of England reformed.
1847. England, failures 20 millions; discount 13 per cent.
1856. United States, 7,200 houses failed for 111 millions.
1866. Indon, Overend-Gurney crisis; failures exceeded too millions.
1869. Black Friday in New York (Wall street), September 24.

CURRENCY.—The Director of the Mint estimates the gold and silver currency of the United States:

June 30, 1879—Gold, \$286,400,608; silver, \$12,050,085, Nov. 1, 1879—Gold, \$355,681,532; silver, \$126,000,537. Nov. 1, 1880—Gold, \$444,022,030; silver, \$138,721,322. Nov. 1, 1882—Gold, \$469,000,000; silver, \$209,93335. Oct. 1, 1882—Gold, \$653,631,456; silver, \$209,933,335. Oct. 1, 1883—Gold, \$600,196,515; silver, \$240,399,234. Oct. 1, 1884—Gold, \$610,500,000; silver, \$262,000,000.

Paper Money in the United States.

The following table, from the report of the Comptroller of the Currency, shows, by denominations, the amount of national bank and legal tender notes outstanding on October 31, 1884:

Denominations.	National Bank Notes,	Legal Ten- der Notes.	Aggregate.
Ones	·\$ 495,741	\$26,763,008	\$27,258,830
Twos	. 288,468	26,778,738	27,067,206
Fives	85,300,155	78,054,050	163,363,205
Tens	111,319,950	69,171,936	180,491,886
Twenties	. 79,206,580	56,070,500	135,277,080
Fifties	22,221,850	22,395,195	44,617,045
One-hundreds	. 34,520,700	33,049,000	66,170,600
Five-hundreds	. 977,500	15,186,000	16,063,500
One-thousands	213,000	19,446,500	19,659,500
Five-thousands		105,000	105,000
Ten-thousands		60,000	60,000
national bank notes		••••••	20,749
destroyed in Chicago fire		—t,000,000	-1,000,000
Totals	.\$332,473,603	\$346,681,016	\$670.154.700

Aggregate Issues of Paper Money in War Times.

The following table exhibits the amount per capita issued of the Continental money, the French assignats, the Confederate currency, and the legal-tender greenbacks and national bank notes of the United States:

Continental money	9,115,600,000 654,465,963 Highest amount in	Per head. \$119.84 343.98 71.89
Greenbacks and national bank notes	circulation, Jan. '66.	23 87

CUSTOMS.—See diagram, Receipts and Expenditures U. S. Government.

DEBT .- See diagram, Public Debts.

DEAF-MUTES.—The returns for the United States from the census of 1880 show the number of deaf-mutes to be 33,880, or 678 per million of population. The ratio of sex is 56 males to 44 females.

DEATH.—A man will die from want of air in five minutes, for want of sleep, in ten days; for want of water, in a week; for want of food, at varying intervals, dependent on various circumstances. See *Fasting*.

According to Prof. Conrad, the proportion of deaths to classes is as given below.

-	Affluent.	Middle.	Working.
Stillborn	28	53	53
o- 1 year	118	240	200
1- 5 years	95 48	192	220
5-15 " 15-20 "	48	49	58
15-20 "	35 86	24	31
20-30 "	86	63	64
30-60 "	247	204	222
20-30 " 30-60 " Over 60 years	343	¥75	156
Total		1,000	1,000

DIAMONDS.—The six largest weigh, respectively, as follows: Kohinoor, 103 carats; Star of Brazil, 125 carats; Regent of France, 136 carats; Austrian Kaiser, 139 carats; Russian Czar, 193 carats; Rajah of Borneo, 367 carats. The value of the above is not regulated by size, nor easy to estimate, but none of them is worth less than \$500,000.

DIGESTION.—The time required for digesting various kinds of food is:

	Hours.	Min.	Hours,	Min.
Rice	. 1	•	Mutton, boiled 3	0
Eggs, raw		30	Beef, roast 3	0
Apples	. 1	30	Bread, fresh 3	15
Trout, boiled	. 1	ğо.	Carrots, boiled 3	15
Venison, broiled		35	Turnips, " 3	30
Sago, boiled	. 1	45	Turnips, " 3 Potatoes, " 3	30
Milk "	. 2	ō	Butter 3	30
Bread, stale	2	0	Cheese 3	30
Milk, raw	. 2	15	Oysters, stewed 3	30
Turkey, boiled	. 2	25	Eggs, hard 3	30
Goose, roast		30	Pork, boiled 3	30
Lamb, broiled		30	Fowl, roast 4	ō
Potatoes, baked		30	Beef, fried 4	0
Beans, boiled	. 2	30	Cabbage 4	30
Parsnips, boiled		30	Wild fowl 4	30
Oysters, raw	. 2	55	Pork, roast 5	15
Eggs, boiled	3	o	Veal, roast 5	30

DISEASES.—The following table shows the number of deaths in the States, from the returns for 1880. It is supposed, however, that 15 per cent of all deaths escaped the notice of enumerators, and that the real death-rate was 17.8 per 1,000, instead of 15.1, as given:

Cause of Death,	Number.	Inhabitants.	Ratio.
Whooping-cough	11,203	224	1.5
Scarlet fever	16,416	328	2.1
Typhoid fever	22,905	458 682	3.1
Digestive diseases	34,094		4-5
Diphtheria	38,39 8	7 68	5.1 8.7
Diarrhœa	65,565	1,311	
Nervous diseases	. 83,670	1,674	11.1
Consumption	91,551	1,831	12,2
Respiratory affections	107,904	2,158	14.4
Various	285,188	5,704	37-3
Total	756,893	15.138	100.0

DRUNKENNESS.—Mulhall estimates the number of years of intemperance required to produce death as follows:

Class.	Liquor.
Women 14	Beer 22
Gentlemen rs	Spirits
Gentlemen	Mixed 16
	class can stand drink longest,

and that beer is the least deadly form of intemperance.

The value of life, drunk and sober, as to expectancy of years,

is given thus:

Age. Drunk. Sober.

20. 15 44
30. 14 36
40. 11 29

The number of cases of insanity traceable to drink is shown by the proportion of dipsomaniacs to all insane, as follows: Italy, 12 per cent; France, 21 per cent; United States, 26 per cent; Scotland, 28 per cent.

DWARFS.—The more notable human mites are named below:

Name.	Height. (Inches.)	Date of Birth.	Place of Birth.	
Count Borowlaski	39	1739	Warsaw.	
Tom Thumb (Chas. S. Stratton)	31	1837	New York.	
Mrs. Tom Thumb	32	1842	"	
Che-Mah	25	183 8	China.	
Lucia Zarate	20	1863	Mexico.	
General Mite	21	1864	New York.	

EDUCATION.—See diagram Educational Statistics. The progress of education since 1830 is shown in the following table, showing the ratio of adults able to write:

77.10.10	1830.	1850.	1881.
United States	. 8o	84	00
England	55	64	84
Scotland	77	82	ŘŘ
Ireland	46	•5	67
France	42	57	78
Germany	8ı	šć	64
Russia		2	77
Austria	28	24	40
Italy	16	28	41
Spain and Portugal	0	x8	24
Switzerland	R	80	88
Helgium and Holland		62	86
Scandinavia	Šo.	82	87

See also diagram Educational Statistics.

ELEVATION OF CONTINENTS.—The average above sea level is: Europe, 670 feet; Asia, 1,140 feet; North America, 1,150 feet; South America, 1,100 feet.

EVICTIONS.—The total number of families evicted in Ireland for 33 years is 482,000, as below:

Years.	Evicted.	Re-admitted,	Net Evictions.
1849-51	263,000	73,000	190,000
1852-60	110.000	73,000 28,000	190,000
1001-70	47.000	8,000	30,000
1871-80	41,000	6,000	35,000
1881-82	21,000	4,000	17,000
Total	482,000	110.000	362.000

The number of persons actually evicted was over two millions (say 70,000 per annum), about 35 per cent of the population.

EXHIBITIONS.—

	Place.			Visitors (Millions).	Days Open.	Receipts.
1851—I	ondon		21	6.2	141	\$2,120,000
1922—1	arıs	••••••	24	4.5	200	640,000
1802	ondon	•••••	23	4.5 6.2	171	2,040,000
1007	ans		27	9.3	217 186	2,100,000
1073— Y	lenna		48	7.3	186	2,030,000
1070-1	uiragerbu	ia	55	10.2		
188s—1	arıs Jew Orles	······	60	16.1	194	4,870,000

The main building of the New Orleans Exposition (1884-5) is the largest ever erected, being 1,378 feet long by 905 feet wide. The building devoted to the United States and State exhibits has a length of 885 feet and a width of 565, while Horticultural Hall is 600 feet long and 194 wide through its center.

EXPENDITURES U. S. Government.—See diagram.

FAIRS.—That of Nijni-Novgorod is the greatest in the world, the value of goods sold being as follows: 1841, \$35,000,000; 1857, \$60,000,000; 1876, \$140,000,000; the attendance in the last named year including 150,000 merchants from all parts of the world. In that of Leipsic the annual average of sales is \$20,000,000,000, comprising 20,000 tons of merchandise, of which two-fifths is books.

FAMILIES.—Number of families in the United States (census of 1880), 9,945,916; average number to a square mile, 3.43.

Number of dwellings, 8,955,842; average to the square mile, 3.02. Number of acres to a family, 186.62. Number of persons to a family, 5.04. Number of persons to a dwelling, 5.60.

FAMINES.—Walford mentions 160 since the 11th century, namely: England, 57; Ireland, 34; Scotland, 12; France, 10; Germany, 11; Italy, etc., 36.

The worst in modern times have been:

Country.	Date.	No. of Victims.
France	1770 1847 1866	48,000 1,029,000 1,450,000

Deaths from hunger and want were recorded as follows in 1879, according to Mulhall: Ireland, 3,789; England, 312; London, 101; France, 260. The proportion per 1,000 deaths was, respectively, 37.6, 0.6, 1.2, 0.3

FASTING.—In 1684, four men were taken alive out of a mine in England, after 24 days without food. In 1880, Dr. Tanner, in New York, lived on water for 40 days, losing 36 lbs. in weight.

FARMS.—Number of farms in the United States in 1880, 4,008,907; in 1870, 2,659,985; in 1860, 2,044,077; in 1850, 1,449,073.

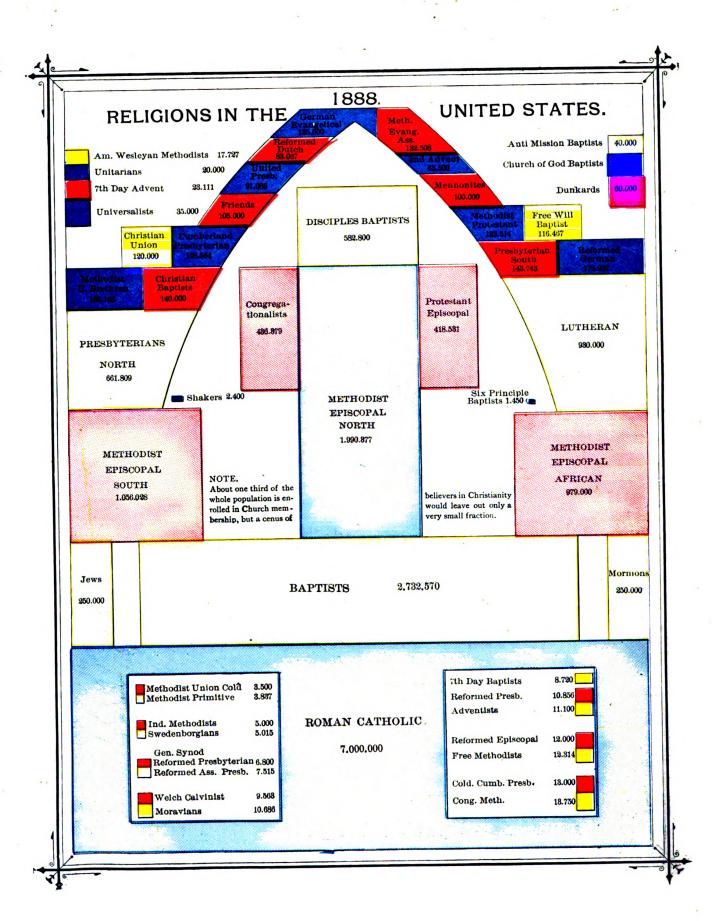
FLAX.—The average annual production is as follows: Russia, 270,000 tons; Austria, 53,000; Germany, 48,000; Belgium and Holland, 38,000; France, 37,000; United Kingdom, 25,000; Italy, 23,000; United States, 12,000; Scandinavia, 4,000—total, 510,000 tons.

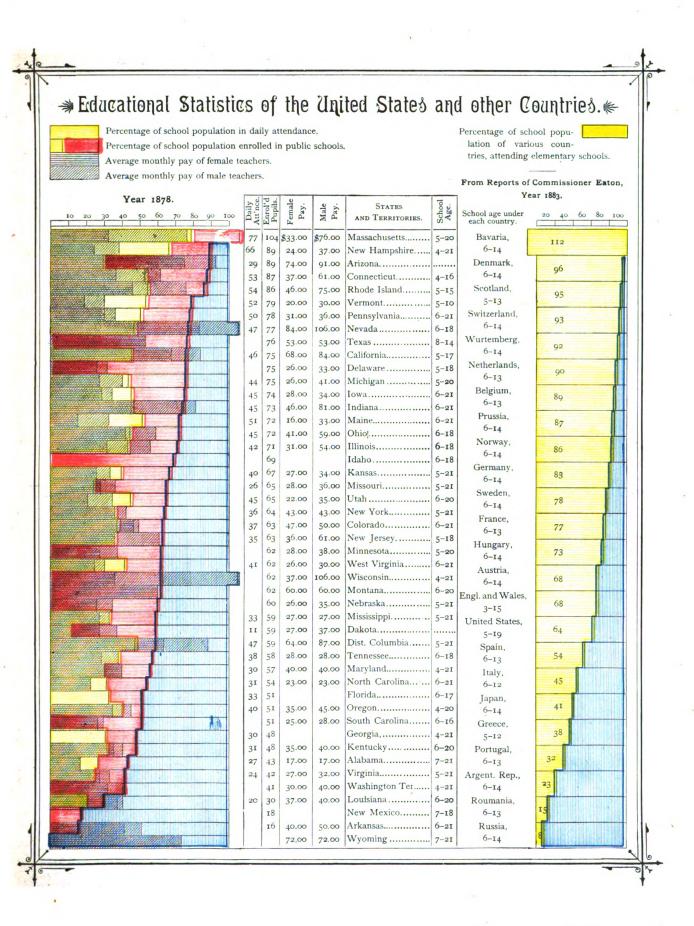
F000.—The yearly consumption of *necessaries*, in pounds, per inhabitant:

	Grain.	Meat.	Butter.	Sugar.
United States	392	120	16	22
United Kingdom	330	105	13	23 68
France		74	1 4	21
Germany	505 585	74 69	. 8	21
Russia	490	4 8 64	3	7
Austria	410	64	5	14
[taly	420	23	1	7
Spain	39 0	49 69	0	5
Belgium and Holland	445	69	6	16
Denmark	475	7° 65	15	31
Sweden and Norway	340	65	9.	17
Average	445	70		20

Luxuries are consumed as follows, per inhabitant:

		Ounces.			Gallons.			
	Coffee.	Tea.	Tobacço.	Wine.	Beer.	Spirits.		
United States	115	21	59	0.60	7.20	1.50		
United Kingdom		72	23	0.44	28.60	1.05		
France		1	29	20.12	5.10	0.90		
Germany	52 83	1	72 26	2.70	19.40	1.33		
Russia	3	7		0.38	ó.8o	2.20		
Austria	3 35 18	1	80	7.50	6.50	0.80		
Italy	18	t	23	17.60	0.70	0.30		
Spain	1.4	1	32 84 61	13.50	0.10	0.20		
Belgium and Holland	175	8	84	0.80	22.20	2.60		
Denmark	175 76 88	8	6ı .	0.30	12.60	4.30		
Sweden and Norway.	88	2	29	0.20	5.40 8.60	4.20		
Average	44	11	41	5.50	8.60	1 10		





These food statistics are by Mulhall. There are many valuable items of food besides these. Grain is largely supplemented by potatoes in Ireland and Germany, and by chestnuts in Italy; moreover, this column does not include rice, the consumption of which is rapidly increasing. Meat includes fowl, but neither game nor fish, nor lard, all of which enter largely into European food. Cheese is another important item not included above. The same may be said of fruit and vegetables.

Relative Value of Food (Beef par).

Oysters, 22; milk, 24; lobsters, 50; cream, 56; codfish, 68; eggs, 72; turbot, 84; mutton, 87; venison, 89; veal, 92; fowl, 94; herring, 100; beef, 100; duck, 104; salmon, 108; pork, 116; butter, 124; cheese, 155.

Percentage of Carbon in Food.

Cabbage, 3; beer, 4; carrots, 5; milk, 7; parsnips, 8; fish, 9; potatoes, 12; eggs, 16; beef, 27; bread, 27; cheese, 36; peas, 36; rice, 38; corn, 38; biscuit, 42; oatmeal, 42; sugar, 42; flour, 46; bacon, 54; cocoa, 69; butter, 79.

Foot-tons of Energy per Ounce of Food.

Cabbage, 16; carrots, 20; milk, 24; ale, 30; potatoes, 38; porter, 42; beef, 55; egg, 57; ham, 65; bread, 83; egg (yolk), 127; sugar, 130; rice, 145; flour, 148; arrowroot, 151; oatmeal, 152; cheese, 168; butter, 281.

Loss of Meat in Cooking.

100	bs. raw beef	=	67	lts. roast	100	ibs. raw fowl			roast
100	"	=	74	" boiled	100		_	87	boiled
100	" raw mutton	=	75	" roast	100	" raw fish	-	94	boiled

FOREIGN POPULATION .- See diagram, Curiosities of the Census.

FORESTS.—The forests of the world cover 1,201 millions of acres, distributed as follows: Russia, 485 millions; United States, 176; Canada, 174; Brazil, 135; Scandinavia, 63; Austria, 46; Gran Chaco, 37; Germany, 33; France, 23; Italy, 11; Spain and Portugal, 8; Algeria, 6; United Kingdom, 2; Belgium and Holland, 11/2. These figures are from an estimate made in 1883. Since 1848 the French have converted 9 million acres of waste land into forest, producing nearly \$2 an acre. Paris burns the timber of 50,000 acres yearly, requiring an area of a million acres of forest to keep up the supply. Woodcutters in the United States fell 10,000 acres daily, or 3 million acres per annum. In 1882 there were 15,100 saw mills in the United States and 640 in Canada.

FREIGHT .- Capacity of a ten-ton freight car:

Whisky 60 barrels	Lumber, green 6,000 feet.
Salt 70 "	Lumber, dry 10,000 feet.
Lime 70 "	Barley 300 bushels.
Flour 90 "	Wheat 340 "
Eggs130 to 160 "	Apples 370 "
Flour200 sacks.	Corn 400 "
Cattle18 to 20 head.	
Sheep80 to 100 "	Bran 1,000 "

FRUIT.—The degrees of sugar in various fruits are: Peach, 1.6; raspberry, 4.0; strawberry, 5.7; currant, 6.1; gooseberry, 7.2; apple, 7.9; mulberry, 9.2; pear, 9.4; cherry, 10.8; grape,

FUEL.—Pounds of water evaporated by I lb. of fuel as follows: Straw, 1.9; wood, 3.1; peat, 3.8; coke or charcoal, 6.4; coal, 7.9; petroleum, 14.6.

GIANTS.—The most noted of ancient and modern times are as follows:

		ι,	
Name.	Place.	Feet.	Period.
Calleth	Palestine	11.0	B.C. 1063.
Galbara	Rome	0.0	Claudius Cæsar.
I-b- Middleton	Fngland	0.1	A.D. 1570.
Emdarick's Swede	Sweden	8.4	
Cuianus	Finland	7-9	•••••
Gilly	Tyrol	, 8.1	
Patrick Cotter	Cork	8.7	1800.
Chang Gow	Pekin	7.8	1880.

Many of the great men of history have been rather small in stature. Napoleon was only about 5 ft. 4 in., Washington was 5 ft. 71/2 in. One of the greatest of American statesmen, Alexander H. Stephens, never exceeded 115 pounds weight, and in his old age his weight was less than 100 lbs.

GOLD .- See diagram, The World's Yearly Production of the

GRAVITY, SPECIFIC.—A gallon of water or wine weighs 10 lbs., and this is taken as the basis of the following table:

LIQUIDS.	TIMBER.	METALS.
Water 100	Cork 24	Zinc 719
Sea water 103	Poplar 38	Cast fron 721
Dead Sea 124	Fir 55	I in 729
Alcohol 84	Cedar 61	Bar iron 779
Olive oil 92	Pear 66	Bar iron 779 Steel 763 Copper 869
Turpentine 99	Walnut 07	Copper 869
Wine 100	I Cherry 73	Brass 840
Urine 101	Maple 75	Silver 1,051
Cider 102	Apple	Lead 1,135
Reer 102	Ash 8	Mercury 1,357
11/	Reach 8	i Gold 1.020
Cow's " 103	Mahogany 10	Platina 1,950
Goot's " 103	Oak 11	,
Poster 104	Ebony 13:	()
FUILEI 104		• •
	PRECIOUS STONES.	

Emerald	277.5	Diamond	353.0	Garnet	406.
Crystal	265.3	Topaz	401.1		428.
		SUNDRIES.			

Gunpowder Butter Ice	77 Peat 133 Porcelain 22 93 Opium 134 Stone 25 94 Honey 145 Marble 22 117 Ivory 183 Granite 2 120 Brick 200 Chalk 2 130 Sulphur 203 Glass 26	70 78
	West-by in Cubic Rest	

Cub. Ft.		Cub. Ft.	
Cork	. 15 . 36 . 51 . 56 . 62 . 66 . 70	Brick	120 150 166 172 470 520 630 680
Coal	. 80	l	

GUANO.—The Peruvian Government exported from the Chincha Islands between 1850 and 1880 more than twelve million tons, worth \$550,000,000.

HAIR .- That which is lightest in color is also lightest in weight. Light or blonde hair is generally the most luxuriant, and it has been calculated that the average number of hairs of this color on an average person's head is 140,000; while the number of brown hairs is 110,000, and black only 103,000.

HEAT.—Ice melts at 32°; temperature of globe, 50°; blood heat, 98°; alcohol boils, 174°; water boils, 212°; lead melts; 594°; heat of common fire, 1,140°; brass melts, 2,233°; iron melts, 3,479°.

HEIGHT of noted cathedrals, monuments, buildings etc.:

Feet.	Feet.
Washington Monument 555 Pyramid, Cheops, Egypt 543 Cathedral, Cologne 511 "Antwerp 476 "Strasburg 474 Tower, Utrecht 64 Steeple, St. Stephen's, Vienna 460 Pyramid, Khafras, Egypt 456 St. Martin's Church, Bavaria, 456 Chimney, Port Dundas, Glasgow 544 Notre Dame, Amiens 422 Salisbury Spire, England 466 Cathedral, Florence 380 "Cremona 372 "Freiburg 367 Cathedral, Florence 360 Cathedral, Florence 360 Cathedral, Florence 360 Cathedral, Florence 360 Cathedral, Florence 360 Cathedral, Florence 360 Cathedral, Florence 360 Cathedral, Seville 360 Pyramid, Sakkarah, Egyp 360 Pyramid, Sakkarah, Egyp 360 Pyramid, Sakkarah, Egyp 360 Pyramid, Sakkarah, Egyp 360 Cathedral, Milan 355 Notre Dame, Munich 348 Invalides, Paris 347 Parliament House, London 340 Cathedral, Magdeburg 337 St. Patrick's, New York 388 St. Mark's, Venice 388 It is proposed to erect an iron tow	Cathedral, Bologna
1889, for the Paris Exposition.	· · · · · · · · · · · · · · · · · · ·

HOLIDAYS.—The legal holidays in the United States are as follows .

tollows:

New Year's Day—Jan. I.—In all States and Territories, except Arkansas, Delaware, Georgia, Kentucky, Maine, Massachusetts, New Hampshire, North Carolina, South Carolina and Rhode Island.

Amniversary of the Battle of New Orleans—Jan. 8.—In Louisiana.

Lincoln's Birthday—Feb. 12.—In Louisiana.

Lincoln's Birthday—Feb. 22—In all States and Territories except Alabama, Arkansas, Florida, Illinois, Iowa, Indiana, Kansas, Maine, Missouri, North Carolina, Ohio, Texas, Oregon and Tennessee.

Shrove Tuesday—March I.—In Louisiana, and cities of Mobile, Montgomery and Selma, Ala.

Amniversary of Texan Independence—March 2—In Texas.

Firemen's Anniversary—March 4—In Louisiana, Minnesota and Pennsylvania.

wania.

Memorial Day—April 26—In Georgia.

Battle of San Jacinto—April 21—In Texas.

Decoration Day—May 30—In Colorado, Maine, Vermont, Connecticut, Michigan, New Hampshire, New Jersey, Rhode Island, New York, Pennsylvania and District of Columbia.

Fourth of July—In all States and Territories.

General Election Day—Generally on Tuesday after first Monday in November—In California, Maine, Missouri, New Jersey, New York, Oregon, South Carolina and Wisconsin.

Thankstrains Day—Usually last Thursday in November—and Fast days.

gon, South Carolina and Wisconsin.

Thanksgrving Day—Usually last Thursday in November—and Fast day whenever appointed by the President—are legal holidays in all States an Territories.

Christmas Day—In all the States and Territories.

HOPS.—Average annual crop, in tons: England, 26,00c; Germany, 19,000; United States, 5,000; France, 4,500.

HORSE-POWER.—One horse-power will raise to tons per minute a height of 12 inches, working 8 hours a day. This is about 5,000 foot-tons daily, or 12 times a man's work.

The horse-power of Niagara is 31/4 million nominal, equal to 10 million horses effective.

ICE.—Good clear ice two inches thick will bear men to walk on; four inches thick will bear horses and riders; six inches thick will bear horses and teams with moderate loads.

ILLEGITIMACY.—The percentage of illegitimate births for various countries, as stated by Mulhall, is as follows; Austria, 12.9; Denmark, 11.2; Sweden, 10.2; Scotland, 8.9; Norway, 8.05; Germany, 8.04; France, 7.02; Belgium, 7.0; United States, 7.0; Italy, 6.8; Spain and Portugal, 5.5; Canada, 5.0; Switzerland, 4.6; Holland, 3.5; Russia, 3.1; Ireland, 2.3; Greece, 1.6.

ILLITERACY .- See Education.

IMMIGRATION.—The arrivals in the United States since 1820 are as follows in even thousands:

1820–30 1831–40		1891-80 1881	2,731,000 660,000
1841-50	1,700,000	1882	789,000
1861-70	2,598,000	1883 1884	599,000 518,000

The grand total for sixty-four years is 12,719,000. Of the arrivals in 1883 there were: Germans, 102,000; English, 100,-200; Canadians, 65, 100; Irish, 64,400; Scandinavians, 52,200; Italians, 32,500; Various, 92,700—Total, 599,100.

INDIANS,-In 1880 the number of Indians in the United States was as follows. The greater part are now gathered in the Indian Territory upon reservations assigned them by the Government: Choctaws, 16,000; Cherokees, 17,000; Muskogees, 13,000; Seminoles, 2,500; Chickasaws, 6,000; Osages, 4,000; Peoria, 170; Ottawas, 175; Sacs and Foxes, 700; Quapaws, 236. Of the Apaches in Arizona and New Mexico there are 14,349, and of a collection of tribes in Oregon, about 837. There is also a small remnant of the Oneida tribe in Wisconsin. The annual report of the U.S. Indian Commissioner for 1880 shows a total Indian population in the United States, exclusive of Alaska, of 255,938, all of whom, except about 18,000, are under control of the Government.

Indians in Canada.

Locality.	Population. 16,000	Property.	per Head.	
Ouebec	11,000	363,000	33	
Manitoba, etc	75,400			

INDIA RUBBER.—This is mostly obtained from the Seringueros of the Amazon, who sell it for about 12 cents a pound to the merchants of Para, but its value on reaching England or the United States is over 50 cents a pound. The number of tons imported into Great Britain and the United States has been as follows:

	1860.	1870.	1880.
United States	1,610	4,316 7,606	7,529
Great Britain	2,150	7,606	8,479

The best rubber forests in Brazil will ultimately be exhausted, owing to the reckless mode followed by the Seringueros or tappers. The ordinary product of a tapper's work is from 10 to 16 lbs. daily. There are 120 india-rubber manufacturers in the United States, employing 15,000 operatives, who produce 280,-000 tons of goods, valued at \$260,000,000, per annum.

INDUSTRIES .- See diagram, The World's Industries.

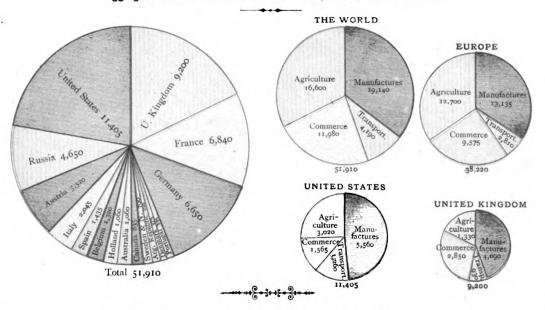
INSANITY.—It is estimated that the number of insane persons in the United States is 168,900; in Germany, 108,100; in France, 93,900; in England, 81,600; in Russia, 80,000; Italy, 44,100; Austria, 35,000; Ireland, 19,500; Scandinavia, 18,100; Spain and Portugal, 13,000; Scotland, 11,600; Belgium and Holland, 10,400; Canada, 7,300; Australia, 4,900; Switzerland, 3,100.

Causes of Insanity.—Hereditary, 24 per cent; drink, 14 per cent; business, 12 per cent; loss of friends, 11 per cent; sickness, 10 per cent; Various, 29 per cent.

The above result is the medium average arrived at on comparing the returns for the United States, England, France and Denmark.

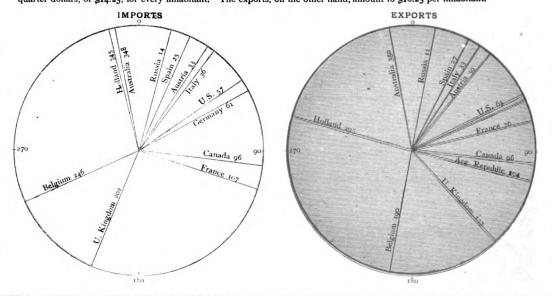
→ TRE WORLD'S IPOUSTRIES COMPARED.

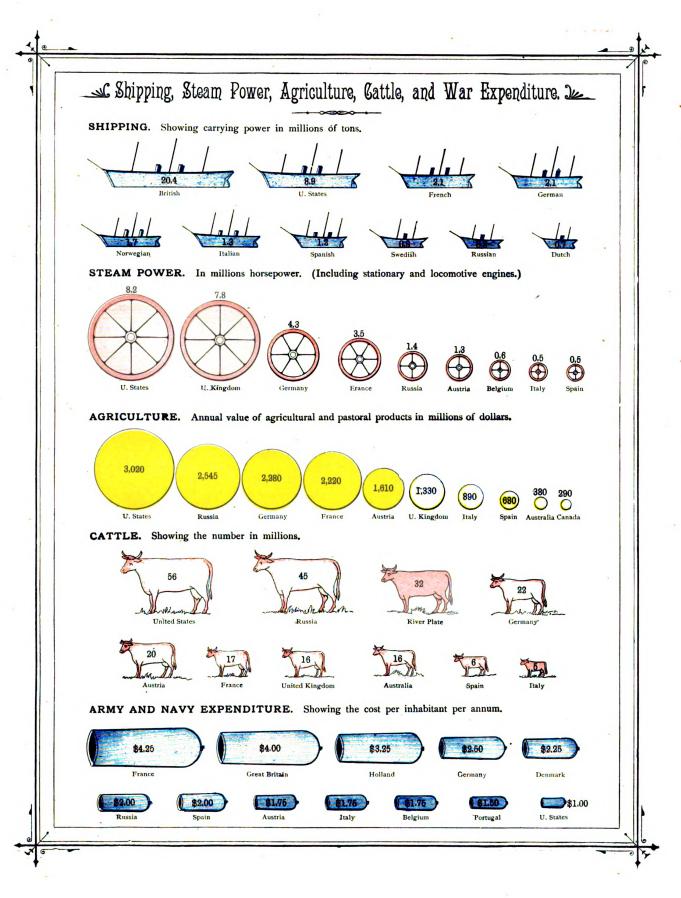
Aggregate Annual Industries of the World, in Millions of Dollars.



⇒ The World's commercial balance. Sheet. €

In the following diagrams are shown the annual imports and exports per inhabitant of the principal nations. The figures indicate quarter dollars. The quarter dollar has been adopted as the unit so as to bring the comparison within the compass of a circle of 360 degrees. Example.—The figures representing the United States in the diagram of imports will be found on the line representing the 57th degree, and indicate that the United States import yearly merchandise to the value of 57 quarter dollars, or \$14.25, for every inhabitant. The exports, on the other hand, amount to \$16.25 per inhabitant.





INTERNAL REVENUE.—See diagram, page 546.

IRON .- See diagram Pig Iron, page 570.

LABOR.—Dr. Farr estimates the value of an agricultural laborer to the commonwealth as follows:

Age.	Value.	Age.	Value.		Value.
5		30	\$1,205		≴690
10	585	35	1,140		485
15			1,060		230
20	1,170	45		70	0
25	1,230	50	840	l	

At the age of 75 he is a loss of \$125, and the loss rises to \$205 at 80. This is only true of agricultural laborers, since intellectual workers are often of much value after 70 years of age, which balances the account.

LAKES.—The length and width of the principal lakes of the world, in miles, is as follows:

	Length. Width.	Length. Width.
		Great Bear 40
Baikal	360 35	Ladoga 75
Michigan	330 60	Champlain 123 12
Great Slave	300 45	Nicaragua 120 40
Huron	250 90	Lake of the Woods 70 25
		Geneva 50 10
		Constance 45 10
Athabasca	200 20	Cayuga 4
Ontario	180 40	George 36 3
Maracaybo	150 60	

LAND GRANTS.—From the year 1800 till 1881, the United States Government ceded 192,000,000 acres of public lands to railways, 77,000,000 to schools, 62,000,000 to military, and 30,000,000 for other purposes, besides 248,000 acres in sales to settlers, this last item including 67,000,000 granted in homestead lots.

LANGUAGES.— The English language is spoken by 100,000,000 people; French, 48,000,000; German, 69,000,000; Italian, 30,000,000; Spanish, 41,000,000; Portuguese, 13,000,000; Russian, 67,000,000.

LEPROSY.— There were 2,180 lepers in Norway in 1883, according to Mulhall. The numbers in Spain and Italy are considerable. In the Sandwich Islands the disease is so prevalent that the island of Molokai is set apart for lepers, who are under the direction of a French Jesuit priest. In the Seychelles Islands leprosy is also common.

LIFE.—American life-average for professions (Boston): Store-keepers, 41.8 years; teamsters, 43.6 years; laborers, 44.6 years; seamen, 46.1 years; mechanics, 47.3 years; merchants, 48.4 years; lawyers, 52.6 years; farmers, 64.2 years. See Expectancy Table.

LONGEVITY.— The average of human life is 33 years. One child out of every four dies before the age of 7 years, and only one-half of the world's population reach the age of 17. One out of 10,000 reaches 100 years. The average number of births per day is about 120,000, exceeding the deaths by about 15 per minute. There have been many alleged cases of longevity in all ages, but only a few are authentic.

MARRIAGE.—A woman's chances of marriage at various ages.—This curiously constructed exhibit by Mr. Finlayson, a European statistician, is drawn up from the registered cases of 1,000 married women, taken without selection. Of the 1,000 tabulated there were married:

Marriages.		Years of Age.	Marriages.		Years of Age.
. 32	• • • • • • • • • •	14 to 15	41		28 to 20
101		16 " 17	18	• • • • • • • • • •	70 " 3Í
219		18 '' 19	15		32 " 33
230		20 " 21	8		34 " 35
165	• • • • • • • • •	22 '' 24	4		36 '' 37
102	••••	24 " 25	2		36 · 37 38 · 30
60		26 '' 27			,

METALS.—Few people have any idea of the value of precious metals other than gold, silver and copper, which are commonly supposed to be the most precious of all. There are many metals more valuable and infinitely rarer. The following table gives the names and prices of all the known metals of pecuniary worth:

•	Price per	1	Price per
	v. pound.		. pound.
Vanadium	10,000 00	Gold	330 00
Rubidium	9,070 00	Molybdenum	225 00
Zirconium	7,200 00	Thallium	225 00
Lithium	7,000 00	Platinum	150 00
Glucium	5,400 90	Manganese	130 00
Calcium	4,500 00	Tungstein	115 00
Strontium	4,200 05	Magnesium	64 00
Terbium	4,080 00	Potassium	64 00
Vitrium	4,080 00	Aluminum	32 00
Erbium	3,400 00	Silver	20 00
Cerium	3,400 00	Cobalt	16 00
Didymium	3,200 00	Sodium	8 00
Indium	3,200 00	Nickel	5 00
Ruthenium	2,400 00	Cadmium	4 00
Rhodium	2,300 00	Bismuth	2 50
Niobium	2,300 00	Mercury	95
Barium	1,800 oo	Arsenic	50
Palladium	1,400 00	Tin	25
Osmium	1,300 00	Copper	25
Iridium	1,000 00	Antimony	16
Uranium	900 00	Zinc	11
Titanium	68g oo	Lead	08
Chromium	500 00		

As Conductors.

Gold	100 98 97	16 74	IronZinc	36 30	Electricity. 16 29 15
Copper	97 90	100	Lead		8

Tenacity.

A wire, 0.84 of a line in diameter, will sustain weights as follows:

Tin	35 "	Silver Platinum Copper Iron	274 "
	Fluid I	Density.	
7inc	6 49	Conner	0

MILITARY AND NAVAL STRENGTH.—See diagram, page

MILK.—The component parts of milk are as follows:

	Water.	Fat.	Caseine.	Sugar.	Total.
Woman	89.3	2.5	3.4	4.8	100.0
Cow	86.o	4.0	7.2	2.8	100.0
Ass	90.9	1.1	1.9	6.1	0,001
Goat		3.3	4.0	5.9	100.0
Ewe	85.6	4.2	4.5	5 7	100.0

MONEY.—The amount of money in circulation in the principal nations of the world is as follows, paper money being included as well as gold and silver: France, \$2,005,000,000; United States, \$1,510,000,000; India, \$960,000,000; United Kingdom, \$925,000,000; Russia, \$760,000,000; Germany, \$750,000,000; Italy, \$525,000,000; South America, \$465,000,000; Austria, \$410,000,000; Spain, \$265,000,000; Japan, \$255,000,000; Belgium, \$210,000,000; Holland, \$165,000,000; Australia, \$95,000,000. The amount of coin in circula-

tion, exclusive of copper, is as follows: France, \$1,505,000,000; India, \$900,000,000; United States, \$785,000,000; United Kingdom, \$715,000,000; Germany, \$540,000,000; Italy, \$225,000,000; Spain, \$205,000,000; Russia, \$170,000,000; Belgium, \$145,000,000; South America, \$140,000,000; Japan, \$125,000,000; Austria, \$100,000,000; Holland, \$85,000,000; Australia, \$70,000,000.

MOUNTAINS.—Highest and most noted mountains on the globe.-North America.-Northern Coast Mts.: Mt. St. Elias, 19,283 ft. Sierra Nevada and Cascade Range: Mt. Whitney, 14,887; Mt. Rainier, 14,444; Mt. Shasta, 14,440; Mt. Tyndall, 14,386; Mt. Dana, 13,277; Mt. Hood, 11,225. Rocky Mountains: Uncompangre Peak, 14,540; Mt. Harvard, 14,384; Gray's Peak, 14,341; Mt. Lincoln, 14,297; Long's Peak, 14,271; Pike's Peak, 14,149. Mexican Plateau: Orizaba, 17,897; Popocatepetl, 17,784; Iztaccihuatl, 15,700. CENTRAL AMERICA.-Agua, 14,494; Fuego, 12,790. South AMERICA.—Andes: Illampu, 24,812; Illimani, 24,155; Aconcagua, 23,421; Tupaugati, 22,015; Chimborazo, 21,424; Nevada de Sorata, 21,290; Nevada de Cayambe, 19,535; Anlisana, 19,137; Cotopaxi, 18,870; Tunguaragua, 16,424, Pichincha, 15,924. EUROPE.—Elburz (Asiatic boundary), 18,572; Blanc (Alps), 15,784; Rosa (Alps), 15,223; Matterhorn (Alps), 14,039; Finster-Aarhorn (Alps), 14,039; Jungfrau (Alps), 13,718; Iseran, 13,270; Mulhacen (Spain), 11,654; Maladetta (Spain), 11,426; Mt. Etna (Sicily), 10,874; Mt. Olympus (Greece), 9,754; St. Bernard (Switzerland), 8,000; Parnassus (the home of the muses, Greece), 6,000; Vesuvius (volcano, near Naples), 3,900. ASIA.—Everest (Himalayas, highest in the world), 29,002; Dapsang (Karakorum Mts.), 28,278; Kintchinjunga (Himalayas), 28,156; Dhawalagari (Himalayas), 26,826; Nanda Devi (Himalayas), 25,661; highest peak of the Hindoo Koosh Mts., 20,000; Ararat (Armenia), 17,200; Fusiyama (Japan) 14,177; Mt. Sinai (Arabia), 8,200. AFRICA.—Killimanjaro (Central Africa), 20,000; Kenia (do.), 18,000; Teneriffe (Canary Islands), 12,182; highest peak of the Atlas Mts., 11,400; highest peak of the Mts. of Abyssinia; 10,000. ISLANDS.—Mauna Loa (Sandwich Islands), 14,000; Ophir (Sumatra), 13,842; Owen Stanley (Papua), 13,205; Semero (Java), 12,000; Egmont (New Zealand), 8,840; highest peak of the Australian Alps, 7,500; Kilanea (Sandwich Islands), 6,000; Stromboli (volcano in the Mediterranean), 3,000.

The greatest height attained by Humboldt was 19,510 feet, in the Andes, but Mr. Whymper, in 1880, ascended Cotopaxi to 19,620 feet, and Chimborazo to 20,545 feet.

NAVIES .- See diagram, page 336; also Navy Department.

NAILS.—The size and weight of nails are as follows:

Name.	Length.	No. in D.	Name.	Length.	No. in Ib.
2 penny	···· inch.	557	10 penny	2¾ inch	68
4 "		353	12 "	3 ' "	54
5 "		232	20 "	31/2 "	34
• "		167	Spikes	4 "	16
7 "	2¼ " .	141) '"		
8 "		101	"		

NAVAL ARMAMENT.—The progress of "iron-clad science" in 30 years has been:

1854. Gunboats built for Crimean war, 4-inch plates, perfectly shot-proof.

1862.	The Merrimac and Monitor in American civil war; first battle of
iron-cla	
. 1873.	English rifle cannon send 200 lbs. shots, 9-ton guns, through 8-inch
plates.	•

1874.	Plates of 10 inches pierced in like manner.
1876.	Armstrong 100-ton guns broke 22-inch Creusot steel plates.
1879.	Shot from 9-inch gun, 75 lbs. powder, unable to pierce a 12-inc
plate of	iron and steel alternate layers.
	Desult of Vounds compaigness s

1000	wearing winhb a cylin	criments .	_		
Gan. Krupp British	•••••	Inch. 9% 11%	Shot, Lbs. 348 812	Penetra- tion. 18.1 17.9	Foot Tons, 8,630 12,260
Krup _] 1883.	p's shot penetrated 18-in Italian iron-clad "Lep	ch plates, anto" ha	, the British is plates 36 ii	did not. nches thick.	

NICOTINE.—According to Orfila, the proportion of nicotine in Havana tobacco is 2 per cent; in French, 6 per cent, and in Virginia tobacco, 7 per cent. That in Brazilian is still higher.

NEWSPAPERS.—The population of the world, the number of newspapers in each continent in 1885, and the number of copies per annum in proportion to each inhabitant, are shown below:

	Population.	lications.	head.
Europe	301,356,369	19,557	24.38 36.66
North America	76,033,776	14,802	36.66
Asia	1,007,128,657	775	0.01
South America	29,988,509	699	3.92
Australasia	3,670,850	66i	30.63
Africa	205,000,000	182	0.01

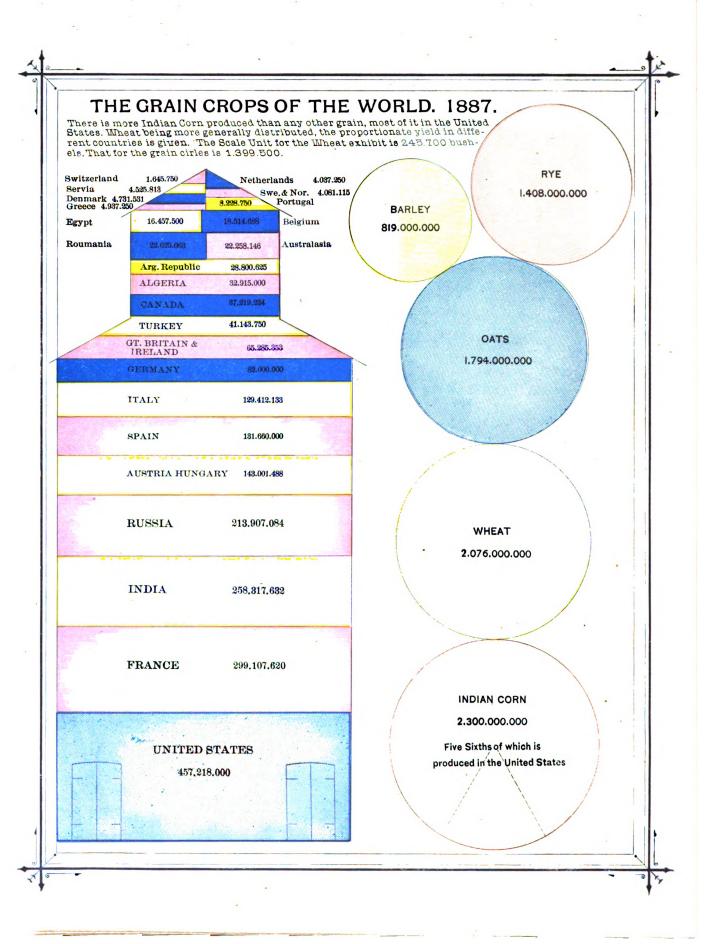
The number of newspapers published in the United States in 1885 was 14,111, of which 1,273 were daily.

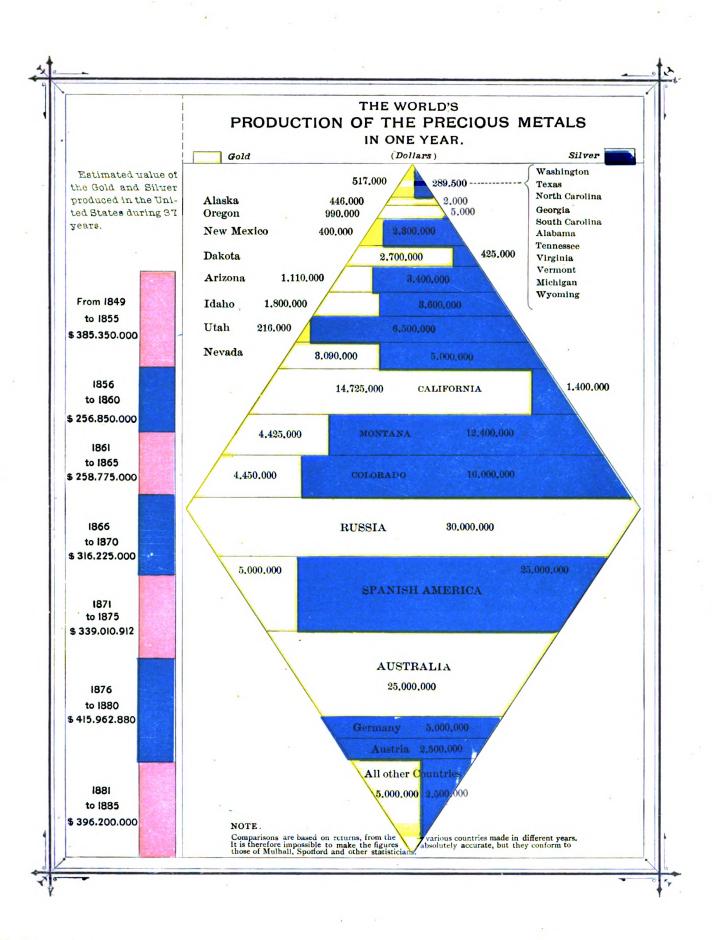
NICKNAMES of Natives of States and Territories .- Alabama, Lizards; Arkansas, Toothpicks; California, Gold-hunters; Colorado, Rovers; Connecticut, Wooden Nutmegs; Dakota, Squatters; Delaware, Muskrats; Florida, Fly-up-thecreeks; Georgia, Buzzards; Idaho, Fortune-seekers; Illinois, Suckers; Indiana, Hoosiers; Iowa, Hawkeyes; Kansas, Jayhawkers; Kentucky, Corn Crackers; Louisiana, Creoles; Maine, Foxes; Maryland, Clam-Humpers; Massachusetts, Yankees; Michigan, Wolverines; Minnesota, Gophers; Mississippi, Tadpoles; Missouri, Pukes; Nebraska, Bug-Eaters; Nevada. Sage Hens; New Hampshire, Granite Boys; New Jersey, Blues, or Clam-Catchers; New Mexico, Spanish Indians; New York, Knickerbockers; North Carolina, Tarheels; Ohio, Buckeyes; Oregon, Hard Cases; Pennsylvania, Pennamites, or Leather-Heads; Rhode Island, Gunflints; South Carolina, Weazles; Tennessee, Whelps; Texas, Beefheads; Utah, Polygamists; Vermont, Green Mountain Boys; Virginia, Beagles; Wisconsin, Badgers.

OCEANS.—The Pacific Ocean covers a surface of about 80,000,000 square miles; Atlantic, 40,000,000; Indian, 20,000,000; Southern, 10,000,000; Arctic, 5,000,000. The seas, bays, gulfs, etc., connected with each ocean, are included. Most geographers concede, however, that the exact superficial extent of the several oceans is not known with certainty, nor the exact proportion of land and water.

OPIUM.—The shipments from India for twenty years have been as follows: 1861-65, 4,305 tons; 1866-70, 4,870; 1871-75 5,250; 1876-80, 6,005—value nearly \$250,000,000. There are 3,000,000 opium smokers in China.

A paper read before the New York Medical Society at Albany in 1885, by Dr. F. N. Hammond, presented some significant and important facts. In 1840 about 20,000 pounds of opium





were consumed in the United States; in 1880, 533,450 pounds. In 1868 there were about 90,000 habitual opium-eaters in the country; now they number over 500,000. More women than men are addicted to the use of the drug. The vice is one so easily contracted, so easily practiced in private, and so difficult of detection that it presents peculiar temptations and is very insidious. The relief from pain that it gives, and the peculiar exaltation of spirits, easily lead the victim to believe that the use of it is beneficial. Opium and chloral are to-day the most deadly foes of women. Dr. Hammond is the better qualified to speak on this subject from having once been a consumer of opium himself. To break off from the habit, he says, the opium-eater must reduce the quantity of his daily dose, using at the same time other stimulants, and gradually eliminate the deadly drug entirely.

0YSTERS.—Annual production, in millions: United States, 11,200; Portugal, 600; France, 380; United Kingdom, 300. Baltimore packs seven million bushels yearly.

PARTIES.—See diagram, page 333.

PHYSICANS.—The number of physicians and surgeons in various countries is as follows, according to Mulhall: United States, 65,000; England, 15,920; Scotland, 3,455; Ireland, 3,560; France, 10,743; Germany, 32,000; Russia, 13,475; Austria, 10,000; Italy, 9,400; Spain, 5,200; Belgium, 2,893; Scandinavia, 1,120.

PLAGUES.—Remarkable plagues of modern times:

Date.	Place.	Deaths.	Weeks.	Deaths per Week.
1656	Naples	380,000	28	10,400
1665	London	68,800	33	2,100
	Marseilles	39,100	33 36	1,100
1771	Moscow	87,800	32	2,700
	Constantinople	170,000	18	9,500
1798	Cairo	88,000	25	3,500
1812	Constantinople	144,000	13 18	11,100
1834	Cairo	57,000	18	3,200
	Alexandria	14,900	17	900
1871	Buenos Ayres	26,300	11	2,400

POLITICAL PARTIES.—See diagram, page 333.

POPES.—The various nations of Europe are represented in the list of Popes as follows: English, 1; Dutch, 1; Swiss, 1; Portuguese, 1; African, 2; Austrian, 2; Spanish, 5; German, 6; Syrian, 8; Greek, 14; French, 15; Italian, 197.

Eleven Popes reigned over 20 years; 69, from 10 to 20; 57, from 5 to 10; and the reign of 116 was less than 5 years.

POPULATION.—See diagrams, Comparative Density of Population and Curiosities of the Census; also full-page tables under head "Statistics of Population," pages 581-584.

Increase of Population in United States.

	Natural.	Immigration.	per Cent.
1831-40		4.65	32.67
1841-50	26.19	9.68	35.87
1851-60	24.20	11.38	35.58
1861-70	15.38	7.25	22.63
1871-80	22.78	7.29	30.07

The increase of population since 1830 (see page 581) has averaged 32 per cent every 10 years. At this rate there will be 88 millions in 1900.

The Great Powers of Europe.

	Thousands Omitted.					
	1380.	1480.	1580.	1680,	1780.	1880.
England	2,360 11,240 600 1,200 2,300 8,400 7,500	3,700 12,600 800 2,100 9,500 9,200 8,800	4,600 14,300 1,000 4,300 16,500 10,400 8,150	5,532 18,800 1,400 12,600 14,000 11,500 9,200	26,800	35,004 37,400 45,260 84,440 37,830 28,910 16,290
Total	33,600	46,700	59,250	73,032	109,881	285,134

In the above, England now stands for the United Kingdom, and Prussia for the German Empire.

POULTRY.—The following table contains, in a small space, much valuable information for those engaged in the poultry business:

Breeds	Live weight of each in pounds.	Live weight of Hen in pounds.	Age at maturity in months.	Cost of raising to maturity.	Annual cost of keep- ing.	Average value of Eggs laid per year.
Brahmas, light	111/2	8	24	\$ 1 50	\$ 90	\$1 50
Brahmas, dark	101/4	7	24	1 50	90	1 50
Cochins, black	10	7	24	1 50	90	1 70
Cochins, buff	10	71/2	24	1 50	ýo	1 20
Cochins, white	II	9	24	1 50	90	1 40
Cochins, partridge	11	8	24	1 50	90	1 50
Common	3 1/2 6 1/2	3 5	12	1 00	75	1 60
Dorkings	61/2	5	18	1 25	90	I 20
Dominiques, American	5_,	4	12	1 25	90	170
Games, black-breasted red	73/2	5	12	1 00	75	3 7º
Hamburgs	4.,	5 3 5	12	80	75	1 8o
Houdans	******* ********	5,,	20	1 25	1 00	1 70
Leghorns, black	473	3 ½ 3 ½ 3 ½	12	75	75	2 00
Leghorns, brown	473	373	12	75	75	2 00
Leghorns, dominique Leghorns, white	172	379	12	75 75	. 75 . 75	2 00
Plymouth Rocks	812	312 612	18	1 50	90	1 75
Polish	- 12	36	14	1 00	75	1 70
Spanish, black	7	31/2	18	1 00	86	1,70
Ducks, common	3		6	75	1 00	
Ducks, Aylesbury	7	3	18	1 00	1 00	90 80
Ducks, Cayuga	7	5½ 5½ 6¼	15	90	1 00	1 00
Ducks, Pekin	6	51/2	18	1 10	1 00	75
Duks, Rouen	7½ 8	61/2	24	1 10	1 00	₹ 5
Geese, common	8	.7 18	12	1 25	1 50	20
Geese, African	20	18	24	1 75	200	30
Geese, Egyptian	7	6	12	100	1 50	40
Geese, Embden	18	15	30	I 75	2 00	30
Geese, Toulouse	22	20	36	2 00	2 00	40
Turkeys, common	12	10	12	1 20	1 50	50
Turkeys, black	15	12	18	I 75	1 75	50
Turkeys, bronze	24	15	36	2 00	2 00	50
Turkeys, buff	15	12	24	I 75	1 50	50
Turkeys, Narragansetts	22	14	30	1 75	1 75	50

A Comparison.

The annual supply of eggs in the United States is estimated at over 500,000,000 dozen, and, at the low price of sixteen cents per dozen, represents a value of over \$80,000,000—twice the value of the product of our silver mines.

PRECIOUS METALS.—See diagram, page 567.

PULSE.—The number of pulsations per minute is 120 in infancy, 80 in manhood, 60 in old age, and rather more in women than in men.

PYRAMIDS.—The largest, that of Cheops, is composed of four million tons of stone, and occupied 100,000 men during 20 years, equal to an outlay of \$200,000,000. It would now cost \$20,000,000 at a contract price of 36 cents per cubic foot.

QUININE.—Annual production: Peru, 8,900,000 lbs.; India, 2,200,000 lbs.; Java, 110,000 lbs.; Jamaica, 21,000 lbs. Total, 11,231,000 lbs.

RABBITS.—One pair of rabbits can become multiplied in four years into 1,250,000. They were introduced into Australia a few years ago, and now that colony ships 6,000,000 rabbit skins yearly to England.

RAILWAYS.—[See diagram.] There are constant additions to the railroads of the United States, and the number of miles, on Jan. 1, 1884, had increased to 120,552. From Jan. 1, 1884, to Jan. 1, 1885, 3,870 additional miles of track were laid, as follows:

	No. lines.	Miles.
New England States	8	75
Eastern Middle States	24	332
Middle Western States		332 564
Southern States (east of Mississippi River)	50	1,003 828
Missouri Belt	36	828
Kansas Belt	22	580
Colorado Belt	7	~s
Pacific Belt	14	390

Railway Signal Code.

One whistle signifies "down brakes." Two whistles signify "off brakes." Three whistles signify "back up." Continued whistles signify "danger." Rapid short whistles "a cattle alarm." A sweeping parting of the hands on the level with the eyes, signifies "go ahead." Downward motion of the hands with extended arms, signifies "stop." Beckoning motion of one hand, signifies "back." Red flag waved up the track, signifies "danger." Red flag stuck up by the roadside, signifies "danger ahead." Red flag carried on a locomotive, signifies "an engine following." Red flag hoisted at a station, is a signal to "stop." Lanterns at night raised and lowered vertically, is a signal "to start." Lanterns swung at right angles across the track, means "stop." Lanterns swung in a circle, signifies "back the train."

RECEIPTS and expenditures U. S. Government.—See diagram, page 546.

RAINFALL.—The average annual rainfall, as ascertained by observations at different points throughout the Union, is as follows:

10 W 3 .		
	Inches.	Inches.
Baltimore		Huntsville, Ala 54
Baton Rouge, La		Key West, Fla 36
Boston	44	Macinac, Mich 23
Buffalo, N. Y	33	Marietta, Ohio 42
Burlington, Vt	34	Meadow Valley, Cal 57
Brunswick, Me	44	Memphis, Tenn 45
Charleston 6. C	43	Milwaukee, Wis 30
Cleveland, Ohio	37	Muscatine, Iowa 42
Cincinnati		Mt. Vernon Arsenal, Ala 66
Dalles, Or	21	Natchez, Miss 53
Detroit, Mich	30	Neah Bay, Wash. Ter123
Fort Bliss, Tex	9	Newark, N. J 44
Fort Bridger, Utah	6	New Bedford, Mass 41
Fort Brown, Tex	33	New Haven, Conn 44
Fort Colville, Wash, Ter		New Orleans, La 51
Fort-Craig, N. Mex	11	New York 43
For Defiance, Ariz	14	Penn Yan, N. Y
Fort Garland, Col	6	Peoria, Ill 35
Fort Gibson, Indian Ter		Philadelphia
Fort Hoskins, Or	66	Pittsburgh, Pa
Fort Kearney, Neb	25	Providence, R. I 41

Fort Laramie, Wy 15	Richmond, Ind 43
Fort Leavenworth, Kan 31	Sacramento, Cal 10
Fort Marcy, N. Mex 16	Salt Lake, Útah 23
Fort Massachusetts Col	San Francisco Cal
Fort Myers, Fla 56	San Diego, Cal
Fort Kandall, Dak 16	Savannah, Ga 48
Fort Smith, Ark 40	Sitka, Alaska 83
Fort Snelling, Minn 25	Springdale, Ky48
	St. Louis, Mo 42
Fort Vancouver, Wash. Ter 38	Washington, Ark 54
Fortress Monroe 47	Washington, D. C 37
Gaston, N. C 43	White Sulphur Springs, Va 37
Hanover, N. H 40	

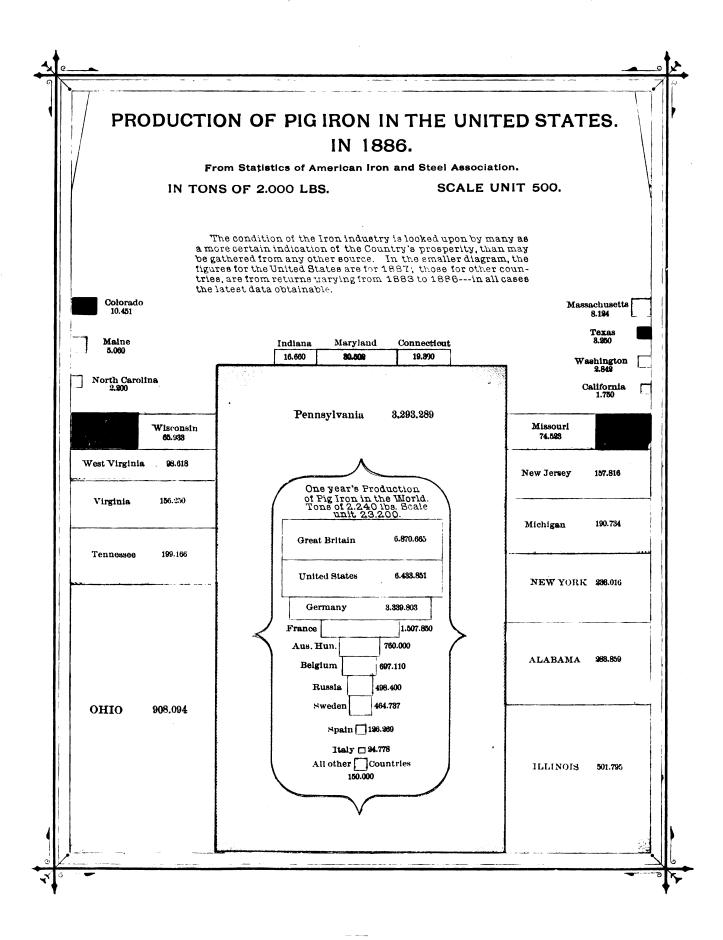
RELIGION.—[See diagrams.] The estimated number of religious denominations among English-speaking communities throughout the world is as follows: Episcopalians, 21,100,000; Methodists of all descriptions, 15,800,000; Roman Catholics, 14,340,000; Presbyterians of all descriptions, 10,500,000; Baptists of all descriptions, 8,160,000; Congregationalists, 6,000,000; Unitarians, 1,000,000; Free Thought, 1,100,000; minor religious sects, 2,000,000; of no particular religion, 20,000,000. Total English-speaking population, 100,000,000.

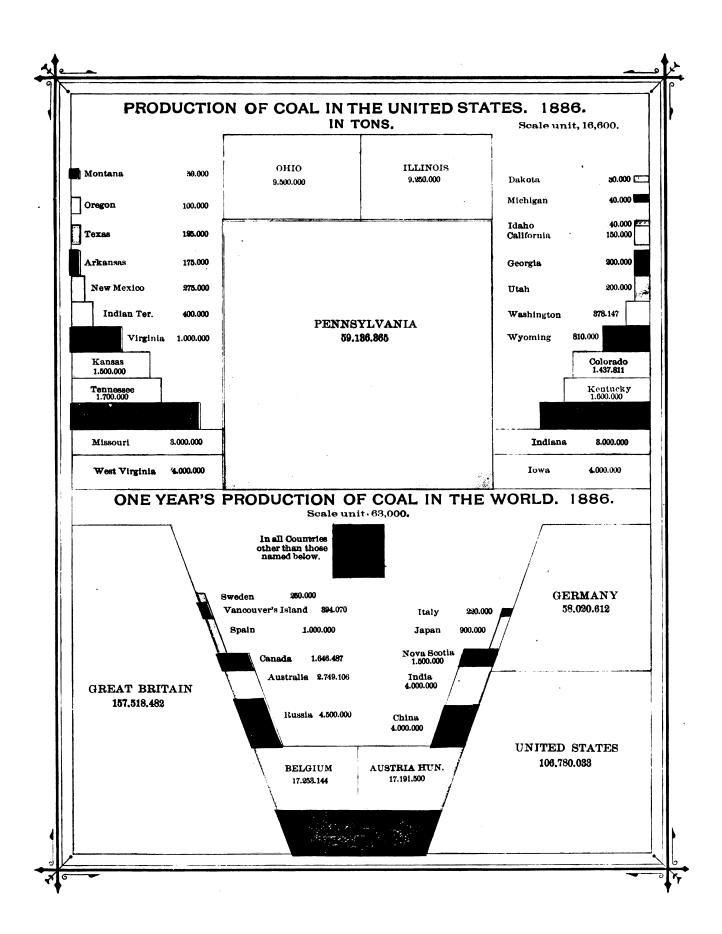
RICE.—Production: India, 16,800,000 tons; Japan, 3,450,000; Java, 2,740,000; Manilla, 1,800,000; Italy, 710,000; Ceylon, 480,000; United States, 90,000; Spain, 80,000.

RIVERS.—Length of principal rivers: NORTH AMERICA.— Missouri to the sea (longest in the world), 4,200; Missouri to the Mississippi, 2,800; Mississippi proper, 2,800; Mackenzie, 2,300; St. Lawrence, 2,200; Nelson and Saskatchewan, 1,900; Rio Grande, 1,800; Yukon, 1,600; Arkansas, 1,514; Ohio (including the Alleghany), 1,275; Columbia, 1,200; Red River, 1,200; Colorado, 1,100; Platte, 800; Brazos (Colorado of Texas), 650. South America.—Amazon, 3,600; Rio de la Plata (Parana included), 2,250; Orinoco, 1,500; St. Francisco, 1,500; Tocantius and Uraguay, 1,250; Magdalena, 900. EUROPE.—Volga, 2,000; Danube, 1,800; Don, Dneiper, 1,000; Rhine, 880; Petchora, Elbe, 737; Dwina, 700; Vistula, 691; Loire, 599; Tagus, 550; Dneister, Guadiana, 500; Oder, Douro, Rhone, Po, Seine, 450. Asia.—Yenisei, 3,400; Yang-tse-Kiang, 3,320; Lena, Obi, Hoang-Ho, 2,700; Amoor, 2,650; Indus, 1,850; Mekong, 1,800; Euphrates, 1,750; Ganges, Brahmapootra, 1,600; Irrawaddy, 1,200; Tigris, 1,150 Ural, 1,000. AFRICA.—Nile, 3,895; Niger, 3,000; Zambesi, 1,800; Congo (or Livingstone), estimated, 1,600; Senegas, Orange, 1,000. AUSTRALIA.-Murray, 1,700.

ROMAN CATHOLIC CHURCH.—Pope Leo XIII. is the 258th Pontiff. The full number of the Sacred College is 70, namely: Cardinal Bishops, 6; Cardinal Priests, 50; Cardinal Deacons, 14. At present there are 62 Cardinals. The Roman Catholic Hierarchy throughout the world, according to official returns published at Rome in 1884, consisted of 11 Patriarchs, and 1,153 Archbishops and Bishops. Including 12 coadjutor or auxiliary bishops, the number of Roman Catholic archbishops and bishops now holding office in the British Empire is 134. The numbers of the clergy are approximate only.

RYE.—The annual rye crop of the world is worth over \$1,100,000,000, and feeds 180,000,000 of people. Russia produces annually 680,000,000 bushels; Germany, 240,000,000; Austria, 130,000,000; France, 80,000,000; Italy and Spain, 68,000,000; Scandinavia, 40,000,000, and the United States,





31,000,000, while the products of other countries swells the grand total to 1,408,000,000 bushels.

SEAS .- Length in miles (approximate): Mediterranean, 2,000; Caribbean, 1,800; China, 1,700; Red, 1,400; Japan, 1,000; Black, 932; Caspian, 640; Baltic, 600; Okhotsk, 600; White, 450; Aral, 250.

SERFS.—RUSSIA: There were 47,932,000 serfs in Russia in 1861, as follows: Crown serfs, 22,851,000; appanage, 3,326,000; held by nobles, 21,755,000. The cost of redemption was as follows, in round numbers:

Mortgages remitted. Government scrip	\$152,000,000
Paid by serfs.	52,000,000
Balance due	20,000,000
m	

The indemnity to the nobles was \$15 per serf. The lands are mortgaged to the State till 1912. The lands ceded to Crown serfs are mortgaged only till 1901. The item of "mortgages remitted" is the amount due by nobles to the Imperial Bank and canceled.

Austrian Servitude (1840).	Value.
Labor (two days per week)	\$175,000,000
Tithe of crops, etc	60,000,000
Male tribute, timber	7,000,000
Female tribute, spun wool	0,000,000
Fowl, eggs, butter	5,000,000
Total	\$256,000,000

There were 7,000,000 serfs, whose tribute averaged more than \$35 per head, which was, in fact, the rent of their farms. Some Bohemian nobles had as many as 10,000 serfs. The redemption was effected by giving the nobles 5 per cent Government scrip, and land then rose 50 per cent in value.

German Serfs.

In 1848 the State took 60,000,000 acres from the nobles, leaving them still 25,000,000 acres, and gave the former among the serfs. Indemnity as follows:

- 1. Government scrip, \$900 for each serf family, to nobleman.
 2. Land tax, \$15 per annum, transferred to peasant.
 3. Interest, \$35 per annum for 47 years, to be paid by peasant to the State being 4 per cent on cost of redemption.

SHEEP .- The number of sheep in various countries is as follows (in round millions): River Plate, 76; Australia, 66; United States, 49; Russia, 48; United Kingdom, 28; Spain and Portugal, 25; Germany, 25; France, 23; Austria, 21; Cape Colony, 11; Algeria, 9; Italy, 7; Roumania, etc., 6; Scandinavia, 5; Canada, 31/4; Belgium and Holland, 11/4; the total number being about 395,000,000.

SHIPPING.—[See diagram, page 563]. Tonnage of entries at principal ports:

Thousands Omitted.					
London. New York Liverpool. Marseilles Antwerp. Hamburg. Hiavre Glasgow.	7,506 7,320 3,260 2,720 2,315 2,260	Belfast Hull Genoa Boston Baltimore Philadelphia	2,030 2,010 1,640 1,560		

SHOEMAKERS' MEASURE.

SHOEMARENO METALES Small sizes.—No. 1. 4 1-8th in.
No. 2. 4 1-8th in. + 1-3d = 4 11-24th in.
No. 3. 4 1-8th in. + 1-3d + 1-3d = 4 19-24th in.
Etc., etc., etc.

```
261.—
No. 1. 8 11-24th in.
No. 2. 8 11-24th in. + 1-3d = 8 19-24th in.
No. 3. 8 11-24th in. + 1-3d + 1-3d = 9 1-8t
No. 4. 8 11-24th in. + 1-3d + 1-3d + 1-3d = Etc., etc.
```

SICKNESS.—The ratio of sickness rises and falls regularly with death-rate in all countries, as shown by Dr. Farr and Mr. Edmonds at the London Congress of 1860, when the following rule was established:

Of 1,000 persons, aged 30, it is probable 10 will die in the year, in which case there will be 20 of that age sick throughout the year, and 10 invalids.

Of 1,000 persons, aged 75, it is probable that 100 will die in the year, in which case the sick and invalids of that age will be 300 throughout the year.

For every 100 deaths let there be hospital beds for 200 sick, and infirmaries for 100 invalids.

lbs. Silk.

Value.

SILK -Production of raw silk

Tenen			#/2,300,000
Japan	• • • • • • • • •	4,400,000	20,500,000
Italy		. 6,600,000	33,000,000
India and Persia		2,000,000	7,500,000
France		1,200,000	6,000,000
Turkey, Spain, etc		2,800,000	12,500,000
Total		38,000,000	\$152,000,000
SILVER.—Production in 500	years:		
	Tons.	Millions Doll	ars. Ratio.
Mexico		3,040	40.7
Peru, etc	72,000	2,770	37.3
United States	11.600	445	6.0
Germany		325	4.4
Austria	7,030	305	4.1

5.8 7.435 See also diagram, page 567.

SLAVERY.—The number of slaves emancipated in the British Colonies in 1834 was 780,993, the indemnity aggregating, in round figures, \$100,000,000. In Brazil, in 1876, there were 1,510,800 slaves, 15 per cent of the entire population. These were held by 41,000 owners, averaging 37 to each owner. In 1882 the number of slaves was 1,300,000, and it is expected that there will be more remaining in 1900.

Slavery in the United States.

Year.	Number.	Year.	Number.		
1790	697,900	1830	2,009,030		
	693,040	1840	2,487,500		
1810	1,191,400	1850	3,204,300		
1820	1,538,100	186o	3,979,700		
Slaves of Antiquity.					

Some of the wealthy Romans had as many as 10,000 slaves. The minimum price fixed by law was \$80, but after great vic-

tories they could sometimes be bought for a few shillings on the field of battle. The day's wages of a Roman gardener were about 16 cents, and his value about \$300, while a blacksmith was valued at about \$700, a cook at \$2,000, an actress at \$4,000, and a physician at \$11,000.

SMALL-POX.—In the epidemic of 1881 in England the returns showed 4,478 deaths per million inhabitants-98 vaccinated to 4,380 unvaccinated, or in the proportion of 44 to 1. In the epidemic at Leipsic in 1871, the death-rate was 12,700 per million, 70 per cent of whom were unvaccinated. These figures

are by Dr. Mulhall. In Boston the proportion was 15 to 50, and in Philadelphia, 17 to 64.

During the Franco-German war the Germans lost only 263 men from this disease, the French 23,499, the former having been re-vaccinated in barracks. In the war in Paraguay, the Brazilians lost 43,000 men from malignant or black small-pox, that is, 35 per cent of their army, nine cases in ten proving fatal.

STARCH.—The percentage of starch in common grains is as follows, according to Prof. Yeomans: Rice flour, 84 to 85; Indian meal, 77 to 80; oatmeal, 70 to 80; wheat flour, 39 to 77; barley flour, 67 to 70; rye flour, 50 to 61; buckwheat, 52; peas and beans, 42 to 43; potatoes (75 per cent water), 13 to 15.

STEAM POWER.—See diagram, page 563.

STEEL.—The number of tons made for the years named is as

	The	Ratio		
	1850.	1870.	1881.	in 1881.
Great Britain	49	245 64	1,780	35.0
Germany		170	1,374 865	27.0 17.1 8.3
Austria	32	94 22	418 176	3.4 5.8
Belgium		10	296 135	2.7
Sweden			37	0.7
Total	71	620	5,081	100,0

Tensile Test of Steel

BAR 8 INCHES LONG.

Sq. Inch Section.	Strain, Tons per Sq. Inch.	Extension, Inches.	Sq. Inch Section.	Strain, Tons per Sq. Inch.	Extension, Inches.
1.0000	13.93 16.96	.01	.8325	28.35	1.40
-9799	16.96	.10	.7088	27.32	2.00
.9331 .8741	23.43	.40	-554z	25.05	2.20
.8741	27.23	1.00	l		
Maximun	mit a Strain Load	.28.35 "	Extension	45 1 27 OB 44	⅓ per cent,
Takin	g the streng	gth of Sw	edish iro	n at 100, 1	the tensile
strength	of steel com-	nares thus .			

wedish iron	. 100 Cannon steel	17 20

STRENGTH.—Comparative scale:

Byron's Gladiator	173	Horse	362 750	

Tensile and Transverse Strength.

A crushing force of 1,000 per square inch on a bar I inch square, and 12 inches long, gives the following ratios of strength:

	Tensile.	Transverse.	I	Tensile.	Transverse
Stone		10	Cast iron	158	20
Glass	123	10	Timber	1.000	8<

SUGAR.—Production, thousands of tons.

Cuba 520 *Austria 460 *France 300	*Russia	United States	90 285 811 8 6 0
* Beet sugar.			

Beet sugar has increased nine-fold since 1853, and now gives 7 per cent of saccharine instead of 4 per cent; that is, 14 tons of roots give a ton of sugar.

SUICIDES .- According to religion:

PER MILL	ON PERSONS		
	Protestant.	Catholic.	General Ratio.
United Kingdom	. 63	17	56
Prussia	. 170	52	131
Bavaria	195	69	102
Austro-Hungary	140	gó	06
Switzerland	. 262	Šı	202

Legoyt says the Jews have even a lower ratio of suicide than

TARIFF .- Import duties, general average :

	Ratio to Imports. per Cent.		Ratio to Imports. per Cent.
United Kingdom France Germany Russia Austria Italy Spain Portugal Holland See also diagram,	5½ 6½ 6 18 5 11 24 26	Belgium Denmark Sweden and Norway Europe United States Canada Australia Brazil Argentine Republic	11/2 9 12 71/4 28 15 13

TEA.—Production in millions of pounds: China, 290; Japan, 35; India, 52; Java, 7; Paraguay, 10. Total, 394. Consumption: Great Britain, 167; United States, 72; Australia, 14; Russia, 37; Various, 114. Total, 394.

TELEGRAPH.—The United States have 154,650 miles of telegraph lines; Russia, 69,000; France, 48,000; Germany, 46,500; Austria-Hungary, 31,000; the United Kingdom, 27,000.

TELEPHONES .- See diagram, Railroads, page 578.

TEMPERATURE.—The temperature of the sea varies as fol-

Fathoms.	Equator.	38 N.	Fathoms.	Equator.	38 N.
0	77.9	70.0	800	37.1	38.1
100	55.6	63.5	1,000	36.0	37-9
200	46.6	60.6	1,200	36.7	
300	42.2	60.0	1,500	36.i	37.1 36.7
500	38.9	46.7	2,700	34-7	35.2
	M	lountains (Humboldt)		

	Mountains (Humboldt).	
Height, Feet.	Depression of Thermometer.	Height, Feet.	Depression of Thermometer.
	14.07	10,790	
3,724 6,740	23.31	15,744 19,286	34.72 49.62
9,029	30.07	19,286	57.38
	_		

34. Mediterranean frozen; traffic with carts.
20. Bosphorus frozen.
80. Wine at Antwerp sold in blocks.
25. Swedish artillery crossed the Sound.
86. Snow knee-deep at Naples.
89. Fahrenheit thermometer marked 23° below zero at Frankfort, and 36° at Rasle Moscow, 480 below zero, greatest cold recorded there: mercury

frozen. 1829. Jakoutsk, Siberia, 73° below zero on 25th January; greatest cold on

any record. 1846. December marked 25° below zero at Pontarlier: lowest ever marked

in France.
1855. Fires on Serpentine, Hyde Park.
1864. January, Fahrenheit stood at zero in Turin: greatest cold recorded in Italy.

Captain Parry, in his Arctic explorations, suffered for some time 51 degrees below zero. Frost is diminishing in Canada with the increase of population, as shown by the fact that Hudson's Bay was closed, from 1828-'37, 184 days per annum, and from 1871-'80 only 179 days per annum.

Summer Heat in Various Countries.

The following figures show the extreme summer heat in the various countries of the world:

Bengal and the African desert, 150° Fahrenheit; Senegal and Guadaloupe, 130°; Persia, 125°; Calcutta and Central America, 120; Afghanistan and the Arabian desert, 110°; Cape of Good Hope and Utah, 105°; Greece, 104°; Arabia, 103°; Montreal, 103°; New York, 102°; Spain, India, China,

The World's Yearly Production of Gotton and Tobacco. COTTON. NO. OF LBS. TOBACCO. Kentucky, 1,367 bales. States not named, 344 9,000 Virginia, 11,000 Washington, -866 6,930 Indian Ter., 17,000 Oregon, 7,325 170 19.733 Missouri, 21,182 235 Florida, 54,997 45,678 South Carolina, -Brazil and other countries, 161,490 Louisiana. 55,954 Tennessee, 330,644 574 Nebraska, 57,979 North Carolina, 389,598 Minnesota, 429 69,922 Louisiana, -California, 872 73,317 South Carolina, 522,548 Michigan 83,969 Arkansas. 608,256 Vermont, 131,432 1,564 Alabama, New Hampshire, 1,941 170,843 751,552 1,133 New Jersey, 172,315 814,441 191,669 Kansas. 575 323 221,293 Texas. 955.808 Georgia, 235 228,590 Texas, 414,663 Mississippi, -281 607 420,477 Iowa, - 692 United States, 6,433,615 452,426 Alabama, 206 - 2,197 970,220 2,064 Arkansas, 470 2,296,146 West Virginia, -- 4,071 564 3,935,825 - 5,612 701 Massachusetts, 1.599 5,369,436 4,937 1,312 6,481,431 Indiana, 11,955 8,872,842 Wisconsin. 8,810 10,608,423 Missouri, 15,321 12.015,657 Connecticut, 8,666 14,044,652 26,082,147 Maryland, 38,174 683 26,986,213 North Carolina, 57,208 707 29,365,052 Tennessee, 41,532 34,735,235 Ohio, 34,626 27,566 Pennsylvania, 36,943,272 79,988,865 Virginia, 140,791 568 756 171;120,784 Kentucky, 226,120

***BEER PRODUCTION. Number of Barrels in various Countries in 1880. Holland, 1,064,516 France, 4.838,709 Number of barrels brewed in U.S., United States Austria, year ending May 1, 1883, 8,709,677 Denmark, 14,865,548 967,741 17,349,424 Great Britain, Sweden, Russia, 1,612,903 645,161 31 gallons to the barrel. 33,870,967 Switzerland, Germany, Belgium, 580,645 29,032.258 5,806,451 Norway, 532,258 Virginia, . 26,750 Arizona, 3,173 New Mexico, Oregon, . 26,732 2,379 Texas, 2,239 . Prohibition. Kansas. Nevada, . 10,533 Utah, 21,539 Dakota, 28,881 Washington Ter., 16,359 Wisconsin, 1,298,183 Delaware, Dist. Columbia, 46,188 Montana, . W. Virginia, California, 458,270 50,410 Georgia, 11,000 Michigan 340,332 South Carolina, 8,976 Louisiana, 55,210 Indiana, 321,031 Wyoming, . 5,355 Tennessee, . 5,209 Maryland, 311,880 Nebraska, Idaho, Iowa, Prohibition. New Hampshire, 256,253 Rhode Island, 69.518 Minnesota, 241,107 Colorado, 94,656 Kentucky, 206,039 sachus New Jersey Conn., 119,523 llinois Missour 071,40 022,55 New York, 5,843,254 Pennsylvania Ohio, 1,706,946 1,585,852

and Jamaica, 100°; Sierra Leone, 94°; France, Denmark, St. Petersburg, Shanghai, the Burman Empire, Buenos Ayres, and the Sandwich Islands, 90°; Great Britain, Siam, and Peru, 85°; Portugal, Pekin, and Natal, 80°; Siberia, 77°; Australia and Scotland, 75°; Italy, Venezuela, and Madeira, 73°; Prussia and New Zealand, 70°; Switzerland and Hungary, 66°; Bavaria, Sweden, Tasmania, and Moscow, 65°; Patagonia and the Falkland Isles, 55°; Iceland, 45°; Nova Zembla, 34°.

THERMOMETER.—			
	Reaumur.	Centigrade.	Fahrenheit
reezing point	0	ŏ	32
Vine cultivation		10	50
Cotton cultivation		20	50 68
Temperature of Brazil	24	30	87
Hatching eggs	32	40	104
	40	50 60	122
•	48	60	140
	56	70	158
,	64	8o	176
			101

TOBACCO.—See diagram, page 574.

Water boils....

TUG-BOATS.—One tug on the Mississippi can take, in six days, from St. Louis to New Orleans, barges carrying 10,000 tons of grain, which would require 70 railway trains of fifteen cars each. Tugs in the Suez Canal tow a vessel from sea to sea in 44 hours.

VELOCITY.—The average velocity of various bodies is here given:

		er hour.			r sec.
A man walks	3	miles,	or	4	feet.
A horse trots	7	"	or	10	44
A horse runs	20	**	or	29	"
Steamboats move	18	**	or	a6	"
Sailing vessels move	10	"	or	14	"
Slow rivers flow	3	**	or	· i	"
Rapid rivers flow	7	**	or	10	•
A moderate wind blows	,	**	or	10	**
A storm moves	36	**	or	52	**
A hurricane moves	86	**	or	117	"
A rifle ball moves		**	or	1.466	"
Sound moves		"	or	1.142	"
Light moves	102 0	o mile			
Electricity moves	22.	~ "	, ,,,	"	•

Velocity of a Bullet.

	Grains, Powder.	Velocity, Feet per second.
		reet per second.
Smooth-bores	110	1,500
Rifle	60	963

WAGES AND COST OF LIVING.—From the report of the Secretary of State on the state of labor in Europe, derived from facts reported by the United States Consuls Washington, 1879, the following tables are gleaned:

Comparative Rates of Weekly Wages Paid in Europe and in the United States.

	France.	Ger-		Great	United States.			
		many.	Italy.	Britain.	New York.	Chicago.		
	8	8	8	8	\$	8		
Bakers	5 • 5 5	3.50	3.90	6.50- 6.60	5-8	9- 12		
Blacksmiths	5 - 45	3.55	3.94	7.04- 8.12	10-14	9- 12		
Bookbinders	4.85	3.82	3.90	6.50- 7.83	12-18	9- 20		
Bricklayers	4.00	3.60	3.45	7.58- 9.03	12-15	9- 101/2		
Cabinet-makers	6.00	3.97	3.95	7.70- 8.48	9-13	7- 15		
Carpenters and Join-		1		1 .	, ,	i ' '		
ers	5.42	4.00	4.18	7.33-8.25	9-12	71/2-12		
Farm Laborers	3.15	2.87	3.50	3.40- 4.25		1		
Laborers, Porters, etc		2.92	2.60	4.50- 5.00	6- g	51/2-9		
Painters	4.90	3.92	4.60	7.25- 8.16		6- 12		
Plasterers		3.80	4.35	7.68-10.13		9- 15		
Plumbers	5.50	3.60	3.90	7.13- 8.46		12- 20		
Printers.	4.70	4.80	3.90	7.52- 7.75		12- 18		
Shoemakers	4.75	3.12	4.32	7.35				
Tailors	5.10	3.58				9- 18 6- 18		
Tinsmiths		3.50	4.30	5.00- 7.30				
I msmittis	4.40	3.65	3.60	6.∞- 7.30	10-14	9- 12		

Comparative Retail Prices of the Necessaries of Life.

	France.	Germany.	Italy.	Great Britain.	UNITED !	STATES.		
	Fra	₹ —	# 	P.G.	New York.			
	Cts.	Cents.	Cents.	Cents.	Cents.	Cents.		
Beef, Roast lb.	22	22	20	22	12-16	8-121/		
Corned lb.	16	13	12	18-20	8-13	4- 7		
Beans qt.		10	13	9	7-10	5- 9		
Breadlb.	3	3-7	13	31/4-41/4	4- 434	4- 4%		
Butterlb.	25	22	28	29-38	25-32	16-40		
Coalton.		\$4.25	\$11.00	\$2.65-\$4.10	\$3-\$5.25	\$3-\$6.7		
Codfishlb.			9	6-8	6- 7	5- 9		
Coffeelb.	30	35	32	28-50	20-30	16-40		
Eggsdoz.	18	20	18	14-30	25-30	10-24		
Flourlb.	4	53/2	10	334-434	3-4	21/2- 41/2		
Lardlb.	20	21	22	12-18	10-12	6-10		
Milkqt.		4	7	5-9	8-10	3-6		
Muttonlb.	16	141/2	15	16-17	0-10	5-121/2		
Oatmeallb.		8′-		31/4-41/4	4-5	4- 5		
Pork, fresh lb.	14	17	13	10-16	8-10 l	4-5		
" saltedlb.	14	17	13	10-16	8-10	6-12		
" Baconlb.	20	20	22	12-16	8-10	7-12		
" Sausage, lb.	16	19	20	18	8-10	6-10		
Potatoesbushel.	50	5ô	\$1.15	68-\$2.00	\$1.40-\$1.60	60-80		
Ricelb.		9	6	31/4-8	8-10	5-10		
Soap		1ó	4	5¾- o	6-7	3- 8		
Sugarlb.		11	834	5 %-10	8-10	7-10		
Tealb.		75		4 88	50-60	25-81.00		

WAR.—The cost of recent wars, according to figures furnished by the London Peace Society, is as follows:

Crimean war	£340,000,000
Italian war of 1850	60,000,000
American civil war—North	940,000,000
" " —South	400,000,000
Schleswig-Holstein war	7,000,000
Austrian and Prussian war, 1866	66,000,000
Expeditions to Mexico, Morocco, Paraguay, etc., (say only)	40,000,000
Franco-Prussian war	500,000,000
Russian and Turkish war, 1877	210,000,000
Zulu and Afghan wars, 1879	30,000,000

£2,653,000,000

This would allow \$10 for every man, woman and child on the habitable globe. It would make two railways all round the world at \$250,000 per mile each.

Summary of Losses from War in Twenty-Five Years (1855-80.)

	Killed in battle, or d of wounds and disea
Crimean war	
Italian war, 1859	45,000
Wanof Schleswig-Holstein	. 3,000
American civil war—the North	. 280,000
" "—the South	. 520,000
War between Prussia, Austria and Italy, in :866 Expeditions to Mexico, Cochin China, Morocco	
Paraguay, etc	. 65,000
Franco-German war of 1870-71—France	. 155,000
" " " —Germany	. 60,000
Russian and Turkish war of 1877	. 225,000
Zulu and Afghan wars, 1879	40,000
Total	2,188,000

Length and Cost of American Wars.

Length.	Cost.
7 years—1775-1782	\$135,193,703
1790	
1803-1804	
	107,159,003
1815	
1817	
1832	*********
1845	
2 years-1846-1848	66,000,000
1856	
4 years—1861-1865	6,500,000,000
	Length. 7 years—1775-1784 1790 1803-1804 1811 3 years—1812-1815 1817 1832 2 years—1846-1848

^{*}About thirty thousand skeletons of Russian and Turkish soldiers were shipped to England in 1881, as manure, in the form of bones or bone dust.

Quota of Troops Furnished by the States and Territories During the Civil War.

States and Territories.	Troops furnished.	Colored troops furnished.	Number of men drafted,	Per cent of troops to population.
New England States Middle States Middle States Western States and Territories Pacific States Border States Southern States Indian Nation *Colored troops Grand total At large. Not accounted for Officers	911,164 1,098,088 19,579 301,062 54,137 3,530 93,441 12,859,132	7,916 13,922 12,711 45,184 63,571 143,304 7,33 5,083 7,122	103,807 362,686 203,924 106,412 776,829	12.0 12.2 13.6 4.3 8.3 .6
		156,240		

WAR EXPENDITURE.—See diagrams, pages 546, 563.

WATER.—One cubic foot = 62½ lbs., or 6½ gallons. One cubic foot sea water = 64 lbs., or 6½ gallons. One gallon of water = 10 lbs., or 277 cubic inches. One inch of rainfall equals 14,500,000 gallons per square mile. Eight cubic feet of snow will produce one cubic foot of water. Current requires a minimum fall of one-tenth inch per mile.

WATER-POWER.—Niagara == ten million cubic feet per minute, say three million horse-power nominal, or nine million real.

In the United States there are 51,000 water-wheels, with 1 1/2 million horse-power aggregate.

WEALTH OF NATIONS.—The wealth of the principal nations of the world is thus given by Mulhall. The figures represent millions sterling:

,	, Land and Forest.	Cattle.	Rail- ways.	Public Works.	Houses.	Furni- ture.	Merchan- dise,	Bullion.	Shipping.	Sundries.	Total.
United States United Kingdom France Germany Russia Austria Italy Spain Holland Belgium Sweden Canada Mexico Australia Portugal Denmark Argentine Republic Switzerland Norway Greece	1,880 2,930 8,420 1,940 1,590 905	378 235 212 231 345 205 56 57 33 30 42 35 32 66 111 31 54 21	1,190 770 494 467 309 255 108 79 27 61 26 72 12 58 12 10 16	527 547 590 442 224 188 131 60 125 41 32 30 12 28 15	2,780° 2,280 1,890 1,470 880 770 656 340 116 140 62 140 108 80 44 72 70 24 444	1,385 1,140 945 735 349 385 398 170 58 70 120 54 40 22 36 35 12	155 350 165 155 64 48 22 61 58 14 18 20 7 7 10 12	157 143 301 108 34 20 45 41 17 29 4 2 10 14 14 14 17	60 120 15 15 7 4 9 7 4 2 5 12 	713 1,255 518 280 104 132 65 77 326 105 41 67 41 61 13	9.495 8,720 8,60 6,323 4,343 4,343 2,351 1,599 807 806 605 638 590 371 366 332 281 281
Total	16,939	2,101	4,005	3,059	12,206	6,098	1,292	957	283	3,810	50,750

WEIGHT AND STATURE OF MAN .-

Age.	MA	LES.	PE	MALES.
vie.	Feet.	Lbs.	Feet.	Lbs.
Years	1.64	7.06	1.62	6.42
"	2.60	25.01	2.56	23.53
• • • • • • • • • • • • • • • •	3.04	31.38	3.00	28.67
š "	3.44	38.80	3.38	35.29
"	4.00	49.95	3.92	47.10
"	4.36	59.77	4.26	56.57
3 "	4.72	75.81	4.60	72.65
	5.07	96.40	4.92	89.04
"	5.36	116.56	5.10	104.34
	5.44	127.50	5.13	112.55
"	5.49	132.46	5.16	115.30
• "	5.52	140.38	5.18	119.82
"	5.52	140.42	5.18	121.81
	5.49	139.96	5.04	123.86
	5.38	136.07	4.97	119.76
· · · · · · · · · · · · · · · · · · ·	5.32	131.27	4.97	113.60
	5.29	127.54	4.94	108.80
"	5.20	127.54	4-94	108.81
	' '		1 . 7	
Mean weight		103.66	1	93.73

The average weight of a male infant at birth, it will be seen, is a little over 7 lbs.; of a female infant, a little less than 61/2

lbs. Children lose weight during the first three days after birth; at the age of a week they sensibly increase, and at the end of one year they triple their weight.

WHEAT .- See diagram, Yearly Wheat Crop, page 566.

WIND .- Velocity and pressure:

Feet per Second.	Miles per hour.	Pressure—lbs. per sq. foot.	Feet per Second.	Miles per hour.	Pressure—lbs. per sq. foot.
5	34	I oz.	80	54	16 lbs.
10	7	4 Oz.	90	6r	20⅓ "
20	14	i lb.	100	68	25 "
30	20	21∕4 lbs.	110	75	301/4 "
40	27	4 "	120	82	36~ "
50 60	34	61/4 "	130	88	421/4 "
60	41	າ "	140	95	49~ "
70	48	121/4 "	150	102	šố "

WINE.—See Alcoholic Liquors.

WOMEN WORKERS.—In the United States in 1880 there were women workers as follows: Artists, 2,061; authors, 320; barbers, 2,902; commercial travelers, 272; dressmakers, milliners, etc., 281,928; journalists, 288; lawyers, 75; musicians, 13,181; physicians, 2,432; preachers, 165; printers, 3,456; tailors 52,098; teachers, 154,375; telegraphers, 1,131.

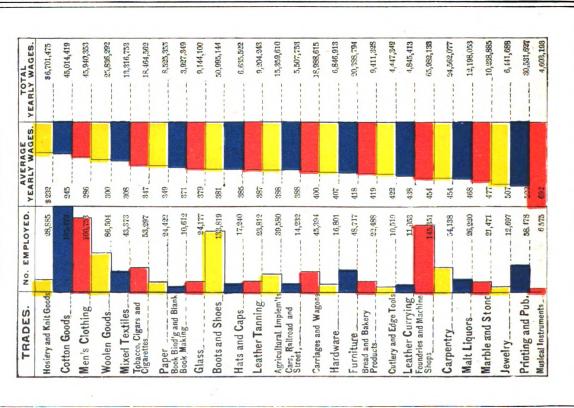
†This is the aggregate of troops furnished for all periods of servicefrom three months to three years' time. Reduced to a uniform three years' standard, the whole number of troops enlisted amounted to 2,320,272.

^{*}This gives colored troops enlisted in the States in rebellion; besides this, there were 92,576 colored troops, included (with the white soldiers) in the quotas of the several states; the second column gives the aggregate of colored, but many enlisted South were credited to the Northern states.

AVERAGE YEARLY WAGES

THE .

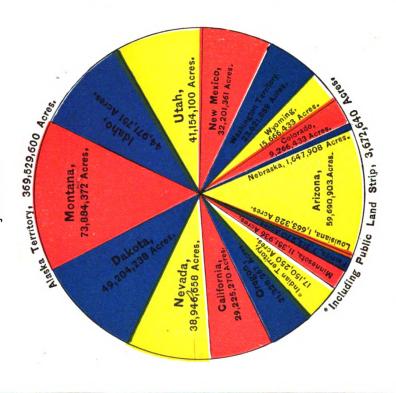
ARTISAN CLASSES.



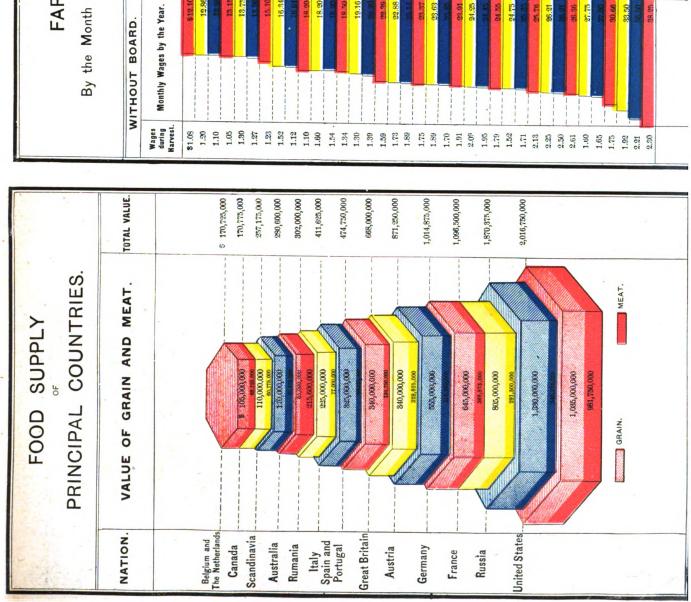
OUR PUBLIC DOMAIN.

Unoccupied Lands and Where they Lie.

JUNE 1885.



This makes, exclusive of Alaska, a total of 478,298,337 acres. On June 30th, 1882, the unoccupied public lands amounted to 1814,788,938 acres; the decrease since that date inving been, as will be seen, 1,336,605,601 acres. If this appropriation of the public domain should continue for only a short time longer, at anything like this rate, it would be speedily exhausted. But it must be further remembered that the lands taken up have, in all cases, been the most valuable, and that a large portion of those still available are uncultivable, or proor. However, a certain proportion of the calload grant lands is to be soon restored to the public domain, and this restitution will increase the total of desirable hand by many millions of acres.



FARM WAGES,

By the Month and by the Day, in Harvest.

Wages during Marvest.

Monthly Wages by the Year.

STATES.

South Carolina North Carolina

Alabama

Virginia

Mississippi

WITH BOARD

West Virginia Texas

Kentucky Arkansas

Louisiana Delaware

Florida

Pennsylvania

Indiana

Missouri

1.47

Vermont New York Kansas

1.35 1.54 1.74 1.57

> New Jersey Nebraska Ohio

Ilinois

New Hampshire Michigan Iowa

Maine

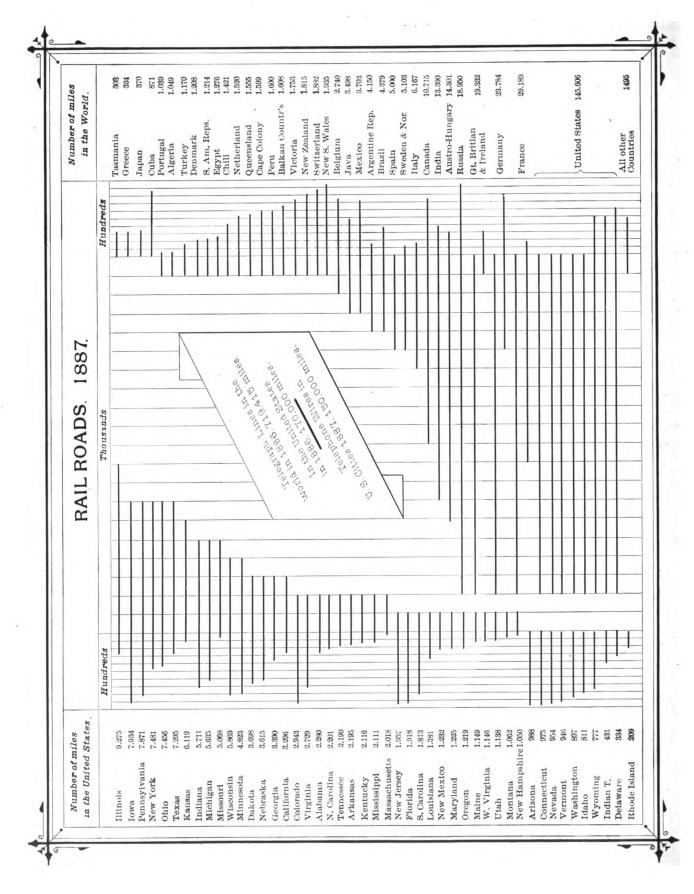
1.41 1.35 1.35 1.76 1.81 2.10 2.16 1.30 1.33 1.35 1.35 1.35

> Rhode Island Connecticut

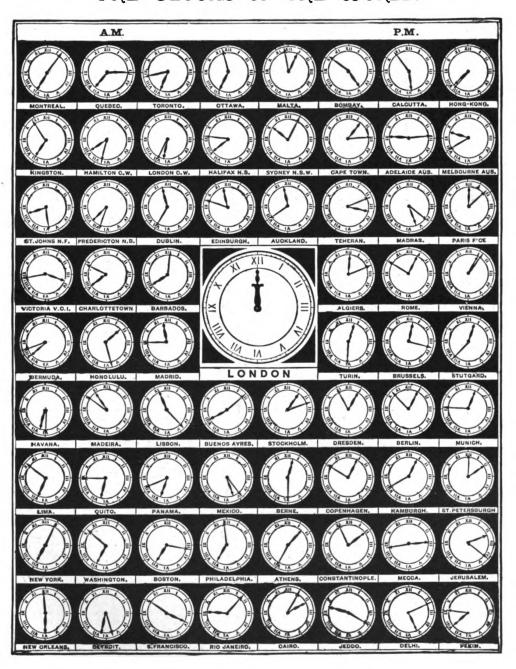
Wisconsin

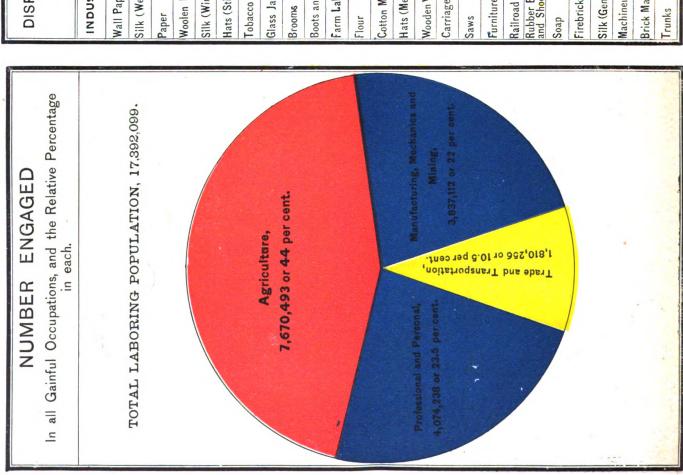
Minnesota

Massachusetts Oregon Colorado California



THE CLOCKS OF THE CORLD.



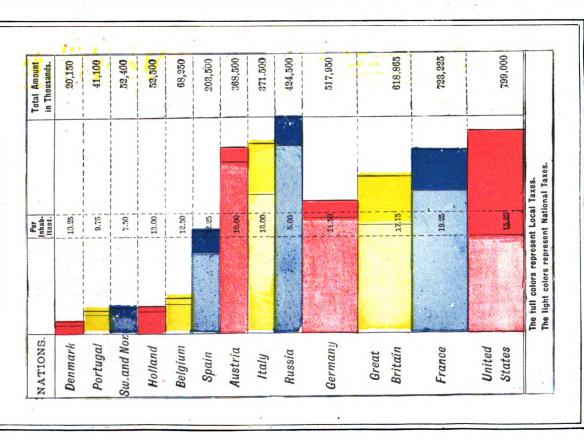


No.of Employes Required without Machinery. 100 DISPLACEMENT OF MANUAL LABOR BY MACHINERY, PROPORTION DISPLACED. IN VARIOUS INDUSTRIES. 4 94 2/1 " : 80 80 20 25 10 No.of Employes Required with Machinery. 12 1/2 33 1/2 33 1/3 5% 51% 16 % 33 1/2 34 % 20 10 20 03 30 35 40 20 Railroad Supplies 50 20 20 9 9.5 Silk (Gen'l M'f'r.) 60 9 Boots and Shoes NDUSTRY. Silk (Weaving) Woolen M'f'r's Hats (Medium) Silk (Winding) Rubber Boots and Shoes Cotton M'f'r's Wooden Ware Brick Making Hats (Stiff) Wall Paper arm Labor Machinery Glass Jars Carriages Furniture Firebrick Tobacco

COST OF GOVERNMENT

AS SHOWN BY

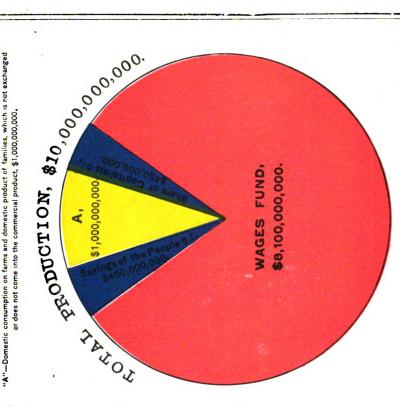
The Taxation of various Nations.



TOTAL ANNUAL PRODUCTION.

Share of Capital, Savings of the People, and Entire Annual Wage Fund

"A"—Domestic consumption on farms and domestic product of families, which is not exchanged or does not come into the commercial product, \$1,000,000,000.



In the above Tabulation the "Wages Fund" is calculated from official statistics, and may be divided as follows: FIRST.

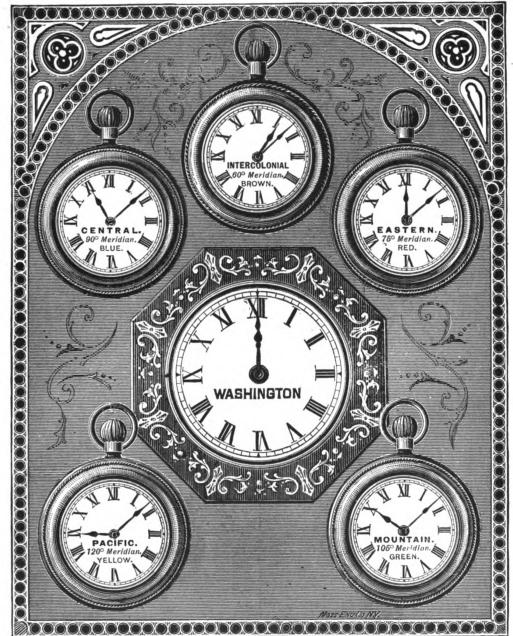
SHCONED. Total, as above.....

\$1,100,000,000

000'000'000'2 Share of 16,300,000 farmers, laborers, mechanics, artisans, operators, clerks, dress-makers and other wage-workers, at an average of \$432

\$8,100,000 000 Grand Total, as shown in diagram.....

→ TRE REW SYSTEM OF STARDARD TIME.



Difference between Old and New Standards at Points which have been Established Standards under the Old System. (f. faster. s. slower.)

Compared with Eastern Time: Albany, N. V., 5 minutes f.: Baltimore, Md., 6 m. s.; Bath, Me., 20 m. f.; Boston, Mass., 16 m. f.; Charleston, S. C., 15 m. s.; Detroit, Mich., 32 m. s.; Hamilton, Ont., 19 m. s.; Montreal, Que., 6 m. f.; New London, Conn., 12 m. f.; New York City, 4 m. f.; Philadelphia, Pa., 1 m. s.; Port Hope, Can., 14 m. s.; Port Huron, Mich., 30 m. s.; Portland, Me., 19 m. f.; Providence, R. I., 14 m. f.; Richmond, Va., 10 m. s. Savannah, Ga., 24 m. s.; Toronto, Can., 17 m. s.; Washington, D. C., 8 m. s. Compared with Central Time: Atchison, Kan., 24 m. s.; Atlanta, Ga., 22 m. f.; Chicago, Ill., 9 m. f.; Cincinnati, O., 22 m. f.; Columbus, O., 28 m. f.; Detroit, Mich., 28 m. f.; Dubuque, Ia., 3 m. s.; Hannibal, Mo., 1 m. s.; Houston, Tex., 24 m. s.; Indianapolis, Ind., 16 m. f.; Jefferson City, Mo., 9 m. s.; Kansas City, Mo., 19 m. s.; Louisville, Ky., 18 m. f.; Moson, Ga., 20 m. f.; Minnapolis, Minn., 13 m. s.; Mobile, Ala., 8 m. f.; Nashville, Tenn., 13 m. f.; New Orleans, La., exactly the same; Omaha, Neb., 24 m. s.; Port Huron, Mich., 30 m. f.; St. Louis, Mo., 1 m. s.; St. Paul, Minn., 12 m. s.; Savannah, Ga., 36 m. f.; Selma, Ala., 12 m. f.; Sioux. City, Ia., 26 m. s.; Terre Haute, Ind., 10 m. f.; Vicksburg, Miss., 3 m. s.; Winona, Minn., 7 m. s. Compared with Mountain Time: Denver, Col., exactly the same; Laramie, W. T., 6 m. s.; Salt Lake City, U. T., 28 m. s. Compared with Pacific Time: Kalama, Wash. T., 10 m. s.; Portland, Or., 10 m. s.; San Francisco, Cal., 10 m. s.

→STATISTICS OF POPULATION.►

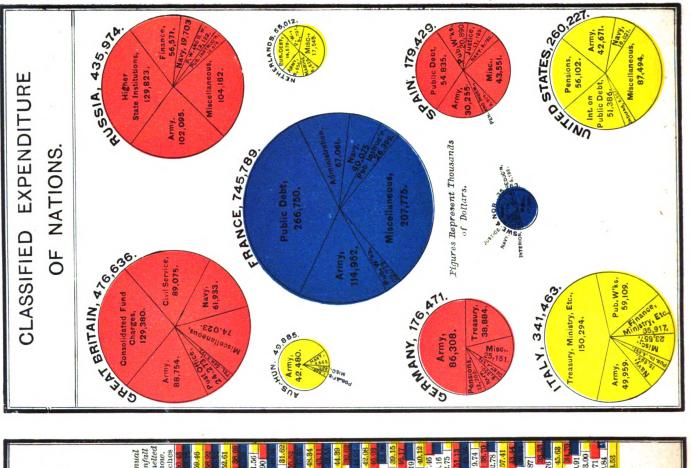
A TABULAR STATEMENT OF THE

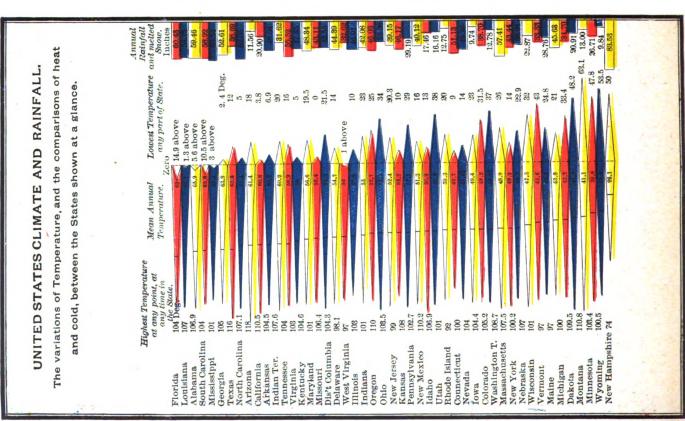
COMPARATIVE GROWTH OF THE UNITED STATES.

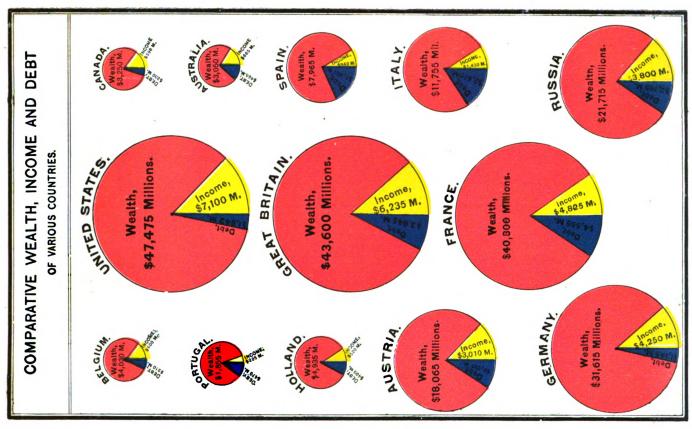
SHOWING THEIR RANK ACCORDING TO POPULATION AT EACH CENSUS FROM 1790 TO 1880.

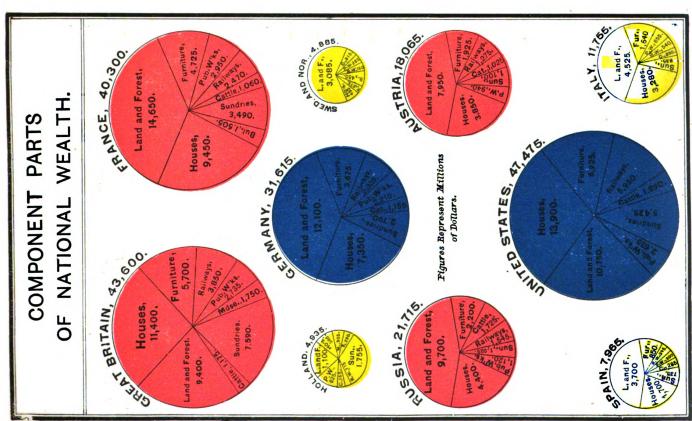
STATES AND TERRITORIES.	1790.	1800.	1810.	1820.	1830.	1840.	1850.	1860.	1870.	1880.
Total	3,929,214	5,308,483	7,239,881	9,633,822	12,866,020	17,069,453	23,191,876	31,443,321	38,558,371	50,155,783
Alabama		1	1	10 127,90	15 309,527	12 590,756	771,623	20 064 002	16 006 000	17 1,262,505
Arizona							11-10-3	13 964,201	16 996,992 46 9,658	44 40,440
Arkansas				26 14,25			26 209,897	25 435,450	46 9,658 26 484,471	25 802,525
California							29 92,597	26 379,994	24 500,247	24 804,004
Colorado								38 34,277	41 39,864	35 194,327
Connecticut	8 237.046	8 251,002	9 261,942	14 275,14	16 297,675	20 309,978	21 370,792	24 460 745	25 505 45	28 622,700
Dakota							3/0,/92		25 537,454	40 135,177
Delaware	16 59,096						30 01.532	22 112.216	35 125.015	38 146,608
Dist. of Columbia.		19 14,093	22 24,023				33 51,687	35 75.080	34 131,700	36 177,624
Florida					26 34,730	27 54,477	31 87,445	31 140,424	34 131,700 33 187,748	34 269,493
Georgia	82 548	10 160 680	77 052 422	11 340,98	5 10 516,823	9 691,392	9 906,185			
Idaho	13 02,340	12 102,000	432,433	340,90			9 900,185	11 1,057,286	12 1,184,100	13 1,542,180
IdahoIllinois			24 12,282		2 20 157,445	14 476,183	11 851,470			4 3,077,871
Indiana		21 5,641	21 24,520			10 685,866	7 988,416	6 1,350,428	6 1,680,637	6 1,978,301
lowa						29 43,112	27 192,214			
Kanese										
Kansas Kentucky	74 72.677	0 220.055	7 406,511	6 564,13	6 687,917	6 779,828	8 982,405		8 1,321,011	8 1,648,690
			18 76,556				18 517,762	9 1,155,684	21 726,915	23 030,046
Maine Maryland	11 96,540	14 151,719		12 298,26	399.455			22 628,279	23 626,915	22 939,946 27 648,936
Maryland	6 319,#28	7 341,548	8 380,546	10 407,350	11 447,040	15 470,019	17 583,034	19 687,049	20 780,894	23 934,943
Massachusetts	4 278 787	100 845	5 472,040	7 523,150	8 610,408	8 737,699	6			
Michigan		100 000 0000	1 262	27 8,76	31,639			7 1,231,066		7 1,783,085
Minnesota			-3 47/02		3-7-33		11301 0.077	30 172,023	28 430,706	26 780,773
Minnesota Mississippi Missouri		20 8,850	20 40,352			17 375,651	15 606,526	14 791,305	28 439,706 18 827,922	18 1,131,597
Missouri			23 20,845	23 66,55	7 21 140,455	16 383,702	13 682,044	8 1,182,012	5 1,721,295	5 2,168,380
Montana	1	[]	11	1	1	[[[11		43 20,595	45 39,159
Nebraska							:: ::::::::	39 28,841	36 122,993	30 452,402
Nevada								41 6,857	40 42,491	43 62,266
New Hampshire. New Jersey	141,885	11 183,858	16 214,460		18 269,328		22 317,976	27 326,073	31 318,300	31 346,991
			12 245,562	13 277,426	14 320,823	18 373,306	19 489,555	21 672,035	17 906,096	19 1,131,116
New Mexico New York North Carolina Ohio							32 61,547	34 93,516	37 91,874	41 119,565
New York	5 340,120	3 589,051	2 959,049	1 1,372,111	1 1,918,608	1 2,428,921	1 3,097,394	1 3,880,735	1 4,382,759	1 5,082,871
North Carolina	3 393,751	4 478,103		1 1,372,111 4 638,829	5 737,987	7 753,419	10 869,039	12 992,622	14 1,071,361	15 1,399,750
Onio		18 45,365	13 230,760	5 581,295	4 937,903		3 1,980,329		3 2,665,260	3 3,198,062
oregon							34 13,294	30 52,405	38 90,923	37 174,768
Pennsylvania	2 434.372	2 602,365	3 810,091	3 1,047,507	2 1,348,233	2 1,724,033	2 2,311,786	2 2,906,215	2 3,521,951	2 4,282,891
Pennsylvania Rhode Island	68,825	16 69,122 6 345,591	177 76 037	20 83,015	23 97,199	24 108,830	28 147,545	20 174,620	32 217,353	33 276,531
South Carolina Tennessee Texas	7 249,073	6 345,591	6 415,115	8 502,741	0 581,185	11 504.208	14 668,507	18 703,708	22 705,606	21 995,577
Tennessee	35,691	15 105,602	10 261,727	9 422,771	7 681,904		5 1,002,717			
I CAdS							25 212,592	23 604,215	19 818,579	11 1,591,749
Utah							35 11,380	37 40,273	39 86,786	30 143,963
Vermont	12 85,425	13 154,465	15 217,805	16 235,066	17 280,652	21 201,048	23 314,120	28 315.008	30 330,551	
Virginia	1 747,510	1 880,200	1 974,600	2 1,065,116	3 1,211,405	4 1,239,797	4 1,421,661	5 1,596,318	10 1,225,163	14 1,512,565
Vermont								40 11,594	42 23,955	
west virginia									27 442,014	29 618,457
Wisconsin			1			30 30,945	24 305,391	15 775,881	15 1,054,670	16 1,315,497
Wyoming						301945	3031391	-5 //5,001	47 9,118	47 20,789
		1 - Table 1				1			7, 9,,,0	

NOTE.—The figures in the first column under each year show the rank of the respective States and Territories according to population.









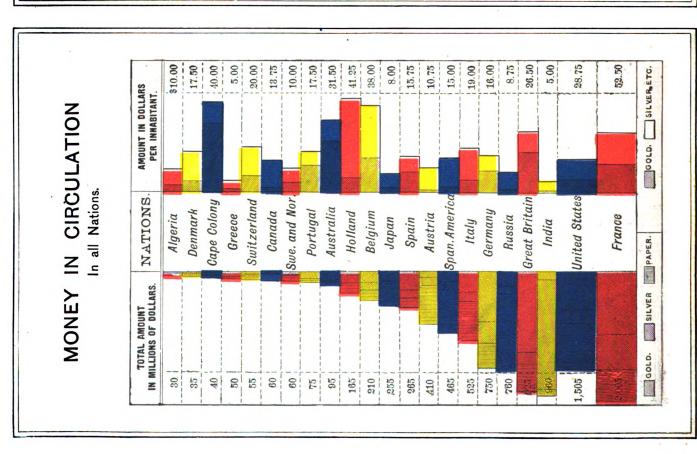
Population of the United States.

ACCORDING TO THEIR RANK IN 1880, BY SEX, NATIVITY AND RACE.

STATES And Territories.	TOTAL.	MALE.	PEMALE.	NATIVE.	FOREIGN.	WHITE.	COLORED.	CHINESE.	JAPAN - ESE,	INDIANS.
The United States	50,155,783	25,518,820	24,636,963	43,475,840	6,679,943	43,402,970	6,580,793	105,465	148	66,407
The States	49,371,340	25,075,619	24,295,721	42,871,556	6,499,784	42,714,479	6,513,772	93,782	141	44,560
New York	5.082.781	2,505,322	2,577,549 2,146,236 1,584,126	3,871,492	1,211,370	5,016,022	65,104	900	17	810
Pennsylvania	5,082,781 4,282,891	2,505,322 2,130,055	2,146,236	3,695,062	1,211,379 587,829	4,197,016	85,535	909	17	18
Ohio	3,108,003	1,613,036	1,584,126	2,803,119	394,943 583,576	3,117,920	79,000	109	3	130
Ohio. Illinois Missouri	3,077,871 2,168,380	1,586,523	1,491,345	2,494,295 1,956,S02	583,576	3,031,151	46,368	209	3	140
Missouri	2,168,380	1,127,187	1,041,193	1,950,502	211,578	2,022,826	145,350	91	• • • • • • • • • •	113
Indiana		1,010,361	967,940	1,834,123	744 179		20.00	20		200
Massachusetts	1,978,301 1,783,085 1,648,690	853,440	907,740	1 220 504	144,178	1,038,798 1,763,782	30,228 18,697	220	8	240 309
Kentucky	1,648,600	832,590	816,100	1.530.173	50.517	1,377,179	271,451	16		50
Michigan	1,636,937	862,355	774,582	1,339,594 1,589,173 1,248,429	50,517 388,508	1,014,500	15,100	27	1	7.24
Kentucky Michigan Iowa	1,624,615	848,136	770,479	1,362,965	261,650	1,614,600	9,516	33		7,240 460
	.,,,,,,,,,	37.30	11-417	-1,51,7-3	1		7,3-0	33		, ,
Texas	1,591,749	823,840	753,999	1,477,133	114,616	1,197,237	393,3S4	136		992
Tennessee	1 543 750	769,277 762,991	772.082	1,525,657	16,703	1,138,831	403,151	25		352
Georgia	1,542,180	762,981	779,199	1,521,616	10,564	816,906 880,858	725,133	17		124
GeorgiaVirginiaNorth Carolina	1,512,565	745,589 687,908	770,100 766,076 711,843	1,497,869	10,564	880,858	631,616	6		8
North Carolina	1,399,750	687,908	711,843	1,396,008	3,742	867,242	531,277		1	1,230
Wisconsin		li 404-	600.00							
Alabama ,	1,315,407	680,069	635,428	910,073	405,425	1,309,618	600,103	16		3,161 213
Mississippi	1,131,597	567,177	504,420	1,122,388	9,734	479,398	650,291	5 ¹		1,85
New Jersey	1,131,116	507,177	571,194	000 416	221,700	1,092,017	38,853	170	2	1,03
Kansas	990,096	559,022 536,667	459,429	909,416 886,010	110,086	952,155	43,107	10	.	31 S1
	990,090	330,007	ע-דוענד	335,535	110,000	93-1-33	43,.07	-7		
South Carolina	995,577	490,408	505,160	987,891	7,686	301,105	604,332		l	131
Louisiana	030.046	468,754	471,192	987,891 885,800	54,146 82,S06	454,954	483,655	48ģ		848
Maryland California	934,943 864,694	468,754 462,187	472,756	852,137	82,S06	724,693	210,230	5		1.5
California	864,694	518,176	346,518 386,246	571,820	292,874	767,181	810,6	75,132	86	16,27
Arkansas	802,525	416,279	350,240	792,175	10,350	591,531	210,666	133	• • • • • • • • • • • • • • • • • • •	19
Minnesota	PS0 773	419,149	361,624	F11 000	267 676	776,884	1,564	٠,,	,	2,30
Maine	780,773 648,936	774.05	324,578	513,097	267,676 58,883	646,852	1,451	24 8		-,62
Connecticut	622,700	324,058 305,782	316,918	590,053 492,708	129,992	610,709	11.547	123	6	25
West Virginia	618,457	314,495	303,962	600,102	18,265	592,537	11,547 25,896	5	l	1 3
Nebraska	452,402	249,241	203,161	354,988	97,414	449,704	2,385	15		23
		11				1	1	1	l	1
New Hampshire	346,991	170,526	176,465	300,697	46,294	346,229	685	14		6
Vermont	332,286	100,837	165,399	291,327	40,959	331,218	1,057 6,488 126,690			1
Knode Island Florida	276,531	133,030	143,501	202,538	73,993	269,939	0,433	27		1,3
Colorado	269,493 194,327	130,444	133,049 65,196	259,584 154,537	9,909 39,790	191,126	2,435	512		15
	1	1 7,.3.	1	-37:33/	الموارون		ľ	1		1
Oregon	174,768	103,381	71,387	144,265	30,503	163,075	437	9,510	2	1,69
Delaware	140,005	74,108	72,500	137,140	9,468 25,653	120,160	26,443 4SS	1		
Nevada	62,266	42,019	20,247	36,613	25,653	53,556	488	5,416	3	2,80
		li				ļ <u> </u>		l		
The Territories	784,443	443,201	341,242	604,284	180,150	688,491	62,421	11,683	7	21,84
	/~~~	443,201	34-1-4-	0.4,204	1.00,1.39	٠	, ways.	,	'	
District of Columbia	177,624	83,578	94,046	160,502	17,122	118,006	59,596	13	4	1
	1 -,,,	33,375	1	1,30	1 -7,7-2	1	39,390	1	1 7	1
Utah	143,963	74,500	69,454	S3,362	43,994	142,423	232	501	1	So.
Dakota New Mexico	135,177	74,509 82,200	69,454 52,881	111,514	51,795	133,147	401	238		1,39
New Mexico	135,177	(64,496	55,069	59,313	8,051	133,147 108,721	1,015	3,186		9.77
Washington	75,116	45,973	29,143 12,233	36,613	15,803	1 67,100	325	3,196		4.40
Arizona	40,440	45,973 28,202	12,238	24,391	16,049	35,160	155	1,030	2	3,49 1,66
Montana	39,159	28,177	10,982	27,638	11,521	35,335	346	1,765		1,66
Idaho	32,610	21,818	10,792	22,636	9,974 5,850	29,013	53 208	3,379		16
Wyoming	20,789	14,153	6,637	14,939	1 5,350	19,437	1 205	914	• • • • · · · · · •	14

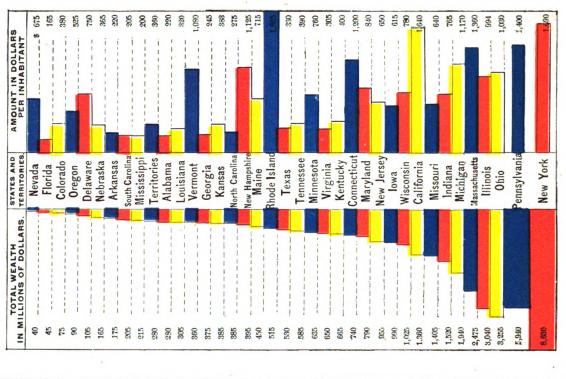
GREAT CITIES OF THE WORLD HAVING 100,000 INHABITANTS.

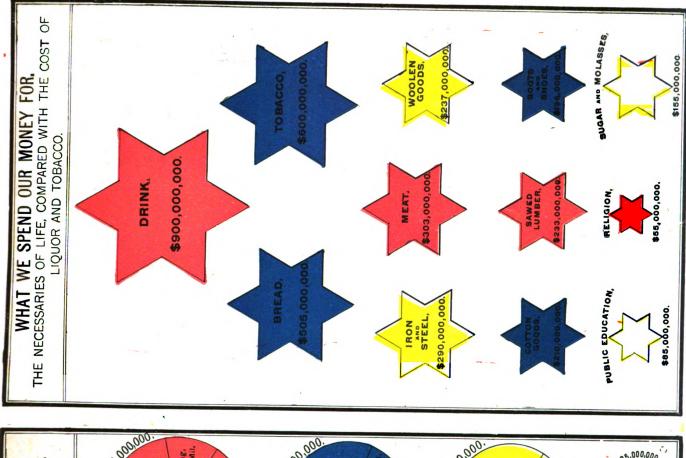
Cities.	Countries.	Popula-	Census.	Cities.	Countries.	Popula-	Census.	Cities.	Countries.	Popula-	Census.
		tion.			1	tion.				tion.	
	.Africa .Egypt				.Italy				England	284,105	
	.India			_	.China			1			
Ahmedabad	.India	113,876	1871		.China				.United States		
	.India				.China				.United States .United States		
	.India				.China				India		
Antwerp	.Belgium	159,579	1878	Hwangjuer	.China	120,000.	Est.		.India		
Ameterdam	Scotland	105,818	1881		.India			Pernambuco	.South America.	116,671	1872
					.Japan			Prague	.Austria-Hungary	162,318,	1880
	.United StatesUnited States				.Germany				.France		
	.United States .				.Holland				.England		
	.United States			_					.Italy		
Bahia	.South America.	128,929	1872		.United States .China				.Africa		
	.South America.				.China				China		
	.India				.India			i	South America.		
	.India			Kesho	.India	150.000	Est.		.India		
	.India				.Japan			Rouen	.France	104,902	1876
Benares	.India	175.188.	1871	Kanagawa	.Japan	108,263.	1877		.Italy		
Bombay	.India	644,405	1872		.Japan			Rotterdam	.Holland	147,082	1878
Brussels	.Belgium	399,936.	1878		.Germany				.Russia		•
	.France				.England				United States		
	.Germany			Kischenew	.Russia	102.427	074		.United States .South America.		
	.Germany				.United States				.China		
	.Ireland			Louisville	.South America.	123,045.	1880 Ange		.China		
	.England				.China				.China		
Blackburn	.England	104,012	1881		.India			Singan-fu	.China	,000,000	Est.
Bolton	.England	105,422	1881	Lucknow	.India	284,779.	1871		.China		
Bradford	.England	183,032	z88z		.France				.Corea		
	.England				.France			Surat	.India	132.681.	
	.Roumania				.Germany				.Turkey-in-Asia.		
Bologna	.Italy	111,969	1878		.England				.Australia		
Barcelona	.Spain	249,106	1877		England				.France		
Budapesth	.Austria-Hungary	347,536	188o	London	.England	3,832,441.	1881		.Germany		1880
Chicago	.United States	503,304	1880		.Portugal				.Germany		
Cincinnati	.United States	255,708	1880		.Austria-Hungary				England		
	.United States				.Belgium		-		England		
	Egypt				.United States				.Russia		
	.India				.France				.Spain		
Cawnpore	.India	122,770	1871		.England				.Sweden		
Columbo	.Ceylon	111,942	1881		.Bavaria			Tunis	.Africa	125,000	Est.
	.Denmark			Milan	.Italy			Taiwau-fu	.China		
Cologne	.Germany	144,751	1880	Madrid	.Spain	397,690.	1877		.China	230,000	
Christiana	-Turkey .Sweden	000,000	1879		.Spain				.China		
	.United States				.Russia				ı.China		
Delhi	.United States	160 552	1880 Arkı	Mandalah	.India	397,552			.China		
Dhar	.India	100.000	Est.		.Ind. Archipelago				.China		
Damascus	.Turkey-in-Asia.	150,000	Est.	Melbourne	.Australia	252,000.	1881	Tokio	.Japan	811,510.	1877
Dantzig	.Germany	108,549	2880		.Canada				.Persia		
	.Germany				.Mexico				.Persia	•	
	.Ireland			Mukden	.China	170,000.	Est.		. Russia-in-Asia . . Austria-Hungary		
	.Scotland				.United States				.France		
	.Scotland				.United States				.Italy		
	.Africa				.United States				.Spain		-
	.Germany			_	.China				.China		
	.Italy				.England				. Austria-Hungary		
	.China				England				.Italy		
	.Scotland				.Italy				.Russia		-
	.India				.Japan				.China		
	.Belgium			Odessa	.Russia	184,819.	1873		.England		
<u> </u>											

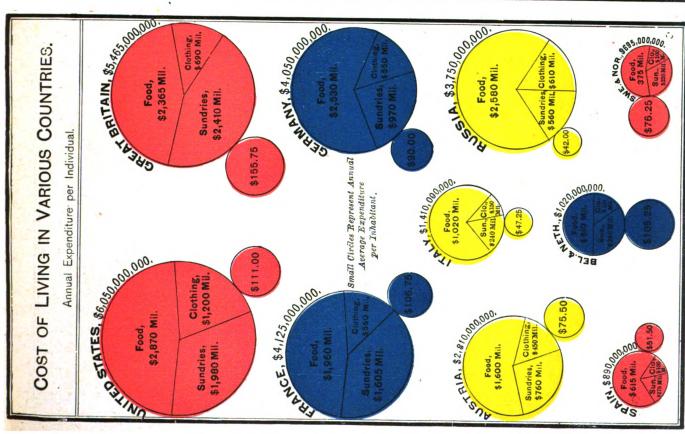


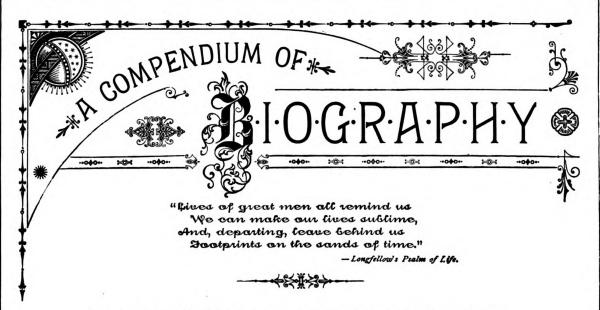
WEALTH OF THE UNITED STATES,

TOTAL AND PER CAPITA.









THE EMINENT HISTORICAL PERSONAGES OF ALL AGES.

N the following Biographical Dictionary the most salient points in each career have been touched, and particular attention has furthermore been paid to adapting it to the wants of American readers and of the present time.

It will be found that many names are included of persons recently brought into prominence, which are the subject of daily enquiry in this country, but of which no mention can be found in the more pretentious and bulky volumes devoted exclusively to biography. The great extent of the work has made it impossible within the pages allotted to this department to do more, in the majority of cases, than answer about each individual named the following questions: "Who was he?" "What was he?" "Where did he live?" "What did he do?" "When was he born?" "When did he These queries have been replied to in the shortest possible manner. It has been the Aarsens, Franz van. 1572-1641. Dutch diplomatist.

endeavor of the editor to make the collection so complete that this biographical information will answer eve y demand made upon it by the reader. It is confidently believed that no name at all apt to be met with in an ordinary course of English reading has been omitted.

EXPLANATION:

The figures following the name indicate the years of birth and death. After the names of some of the Popes, where the date of birth is unknown, the first figure shows the year of accession to the pontificate. An interrogation mark indicates that the date is doubtful or approximate.

Assumed names or sobriquets are printed in italics immediately following the name.

Fl.-Flourished or lived.

B.C.-Before the Christian era.

Am.-American. Dan.-Danish. Eng.-English. Fr.-French. Ger.-German

Gr.-Greek.

It .- Italian. Nor .- Norwegian. Port .- Portuguese. Prus .- Prussian. Scot .- Scottish. Sw.-Swedish.

ACHEN, Johann van. 1552-1620 German painter.

Aaron. 1574-1451 B.C. First high priest of the Israelites. Brother of Moses.

Aarschot, Philippe de Croi, Duke of. ...-1595. Flemish general and statesman.

Abati, Bocco degli. Florentine traitor mentioned in Dante's Inferno. In 1260, in a battle between the Guelphs and Ghibelines, he caused the defeat of his countrymen by striking off the head of their standard-bearer.

Abbas I. The Great. 1557-1628. Shah of Persia.

Abassides. Fl. 749-1258. The most famous dynasty of Laliphs at Bagdad and Damascus.

Abbot, George. 1562-1633. English prelate.

Abbot, Rev. Jacob. 1803–1879. Am. author. Rollo Books. Abbott, John Stevens Cabot. 1805–1877. American historian.

Abd-el-Kader. 1807-1883. Emir of Algeria. Led the Arabians, about 1830, in hostilities against the French, then beginning to invade his country. After a brave struggle he was vanquished in 1847 and imprisoned in France. In 1860, risking his own life, he averted the massacre of thousands of Christians in Syria. He was noted for his devotion to the Moslem faith, for eminent literary attainments and great eloquence.

Abdul-Aziz. 1830-1876. Sultan of Turkey.

Abdul-Hamid II. 1842-.... Sultan of Turkey.

Abelard, Pierre. 1079-1142. French orator and philosopher. Abercrombie, James. 1706-1781. British general in America.

Abercrombie, John. 1781–1844. Scottish metaphysician.

Abercromby, Sir Ralph. 1734-1801. British general.

Abernethy, John. 1764–1831. Eng. physician and anatomist. About, Edmond François Valentin. 1828–1885. Fr. author. Abraham, or Abram. Born about 2000 B.C., and died at the

age of 175. Hebrew prince and patriarch.

Acier, Michel Victor. 1736-1799. French sculptor.

Acilius Glabrio, Manius. Fl. 191 B.C. Consul of Rome.

Acosta, Jose de. 1539?-1600. Spanish Jesuit, missionary and author.

Adair, John. 1757-1840. American general and statesman. Adam. 4000 B.C. Father of the human race.

Adams, Charles Francis. 1807-1888. American statesman and diplomatist. Son of J. Q. A. Negotiated the Treaty of Geneva.

Adams, John. Born at Braintree, Mass., 1735; died, 1826.

American statesman and diplomatist. First vice-president and second president of the United States; one of the negotiators of the treaty of peace with Great Britain, 1782. Defeated by Jeffreson for the presidency in 1800, he retired to private life, disliked by both prevailing parties. His talents, patriotism and public services, however, entitle him to be regarded as one of the greatest of the founders of the American republic.

Adams, John Quincy. 1767–1848. Son of J. A. American statesman and diplomatist. Sixth president of the United States, being elected by the House, not one o. the four candidates in 1824 — Adams, Clay, Jackson and Crawford, all members of the same party — having a majority. Defeated by Jackson in 1828. Elected to the House in 1830, his oratory gained for him the title "Old Man Eloquent," and he was distinguished for his unremitting devotion to public business. He was a member of the House until 1848, in which year, while in his seat at the Capitol, he received a stroke of paralysis, which caused his death.

Adams, Samuel. 1722-1803. Governor of Massachusetts; one of the popular leaders of the Revolution; a signer of the Declaration of Independence.

Adanson, Michel. 1727-1806. French naturalist.

Addison, Joseph. 1672-1719. English poet, moralist and dramatist. Requested by Lord Godolphin to write a poem on the battle of Blenheim, Addison composed "The Campaign," which procured for him a great public applause and a lucrative government position. He became under-secretary of state in 1705, and was elected to Parliament In 1708. Dr. Johnson says of him: "He not only made the proper use of with himself, but taught it to others. • • He has restored virtue to its dignity, and taught innocence not to be ashamed." His contribu-

tions to the *Tatler* and the *Spectator* are examples of his graceful style and genial spirit.

Adelaide. 1792-1849. Consort of William IV. of England. Adelung, Johann Christoph. 1732-1806. German philologist. Adrian I. Pope, from 772-795. II., 867-872. III., 884-885. IV., 1154-1159. V., 1276; died same year. VI., 1521-1523.

Æschines. 398-314 B.C. Athenian orator; rival of Demosthenes.

Æsop. 619?-564 B.C. Greek fabulist. Being a slave, he was liberated by his master on account of his talents.

Æsopus. Fl. 1st century B.C. Roman tragedian.

Ætion. Fl. end of 4th century. Greek painter.

Affre, Denis Auguste. 1793-1848. Archbishop of Paris. Killed during the insurrection of June, 1848, in an effort to arrest the carnage.

Aga, Mohammed. 1734-1797. Founder of the reigning Persian dynasty; assassinated.

Agamemnon. Generalissimo of the Greek forces during the Trojan war.

Agassiz, Louis. 1807-1873. Swiss naturalist; professor at Harvard; founder of museum of comparative zoology, Cambridge. Researches on Fossil Fishes.

Agatharchus. Fl. 480 B.C. Greek painter, said to have been the first to adopt the rules of perspective.

Agnesi, Maria Gaetana. 1718-1799. Italian lady possessing rare talents for languages and mathematics.

Agricola, Cnæus Julius. 37-93. Roman general; built a line of fortresses across Scotland.

Agrippa, Marcus Vipsanius. 63-12 B.C. Roman soldier and statesman.

Agrippina Augusta.-60 A.D. Mother of Nero; noted for her cruelty and immorality; poisoned her uncle and second husband, the Emperor Claudius; executed by order of Nero.

Aiken, John. 1747-1822. English writer. General Biography.

Ainsworth, Robert. 1660–1743. English classical scholar.

Ainsworth, William Harrison. 1805-1882. English novelist. Jack Sheppard, Guy Fawkes, etc.

Airy, Sir George Biddell. 1801-.... Astronomer Royal of England.

Akbar. 1542-1605. Most illustrious of the Mogul emperors.
Akenside, Mark. 1721-1770. English physician, poet and classical scholar. Pleasures of the Imagination.

Aladdin. Fl. 1375. Son of Osman and organizer of the Janissaries.

Alaric. 350?-410. King of the Visigoths; conquered Rome.

Albert, or Albert Francis, Augustus Charles Emmanuel, Prince of Saxe-Coburg-Gotha. 1819-1861. Consort of Queen Victoria.

Albert Edward, Prince of Wales. 1841-.... Heir-apparent to the British Crown.

Alboin.-573. King of the Lombards. Assassinated at the instigation of his wife, whom he had requested to drink wine from the skull of her father.

Alboni, Marietta. 1824-.... Italian vocalist; married Count Pepolo; retired from the stage, 1863.

Albuquerque, Alfonso, Marquis de. *The Great.* 1453-1515. Portuguese conqueror.

Alcibiades. 450-404 B.C. Athenian general. Assassinated.

Alcott, Amos Bronson. 1799-1888. American philosopher and teacher.

Alcott, Louisa May. 1833-1888. American authoress; acted as hospital nurse during the civil war. Little Women; An Old-Fashioned Girl, etc.

Aldrich, Thomas Baily. 1836-... American poet and novelist. Story of a Bad Boy; Margery Daw; Baby Bell; Prudence Palfrey, etc.

Alembert, Jean le Rond d'. 1717-1783. French geometer. Alexander. The Great. 356-324 B.C. King of Macedon. "The youth who all things but himself subdued."—Pope. Taught by Aristotle. Ascended the throne of Macedon 336, destroyed Thebes and was chosen commander of the Greeks against Persia. He invaded Asia Minor in 334, defeating Darius on the banks of the Granicus. In 333 he almost annihilated the Persian army at the battle of Issus. Cut the Gordian knot and caused the Ammonian oracle to declare him the son of Jupiter Ammon. Captured Tyre in 322, and, having invaded Egypt, founded Alexandria. In 331 he defeated Darius at the decisive battle of Arbela. Becoming elated by his successes, he claimed the homage due to a god, stabbing his foster-brother Clitus, for refusal to pay such homage. Invaded India in 327, advancing as far as the Hyphasis. Died at Babylon of a fever said to have been aggravated by excessive drinking.

Alexander I. 1777-1825. Emperor of Russia. II., 1818-1881; assassinated by the Nihilists. III., 1845-....

Alexander I. Pope from 108 to 117. II., 1061-1073. III., 1159-1181. IV., 1254-1261. V., 1409-1410. VI., 1492-1503.

Alexander I.-1124. King of Scotland. II., 1198-1249.

Alexander, Archibald. 1772-1851. Am. author and divine. Alexander, James Waddell. 1804-1859. Son of A. A. American author and divine.

Alexander, Joseph Addison. 1809-1859. Son of A. A. American theologian and orientalist.

Alexander, William. Lord Stirling. 1726-1783. American Revolutionary general.

Alfieri, Vittorio. 1749-1803. Italian poet.

Alfonso XII. 1857-1885. King of Spain.

Alfred. The Great. 849?-901. King of the West Saxons. Established schools and a system of police, and founded a navy.

Algardi, Alessandro. 1600?-1654. Italian sculptor.

Alger, William Rounseville. 1823-... Am. author and divine.
Allen, Ethan. 1742-1789. American Revolutionary commander. With only eighty-three men, in 1775, he captured Ticonderoga and Crown Point.

Abraham a Sancta Clara. (Ulrich Megerle). 1642-1709. Ger. pulpit orator; chaplain at the court of Vienna.

Abt, Franz. 1819-1885. Ger. musician and composer. When the Swallows Homeward Fly; Oh, Ye Tears; Over The Stars is Your Rest.

Albani, Emma. 1850-.... American vocalist.

Allen, William F. 1847-.... American perfecter of the new system of standard time.

Allen, William Henry. 1784-1813. Am. naval commander.

Allibone, Samuel Austin. 1816-... Am. author. Critical
Dictionary of English Literature.

Allison, William R. 1829 - . . . Am. lawyer and statesman.

Allston, Washington. 1779-1843. American painter.

Alma-Tadema, Lawrence. 1836. Belgian painter.

Alva, Fernando Alvarez de Toledo, Duke of. 1508-1582. Spanish commander in the Netherlands, infamous for his cruelties.

Ambrose, Saint. 340?-397. One of the fathers of the church.

Ames, Fisher. 1758-1808. Am. orator and statesman.

Amherst, Jeffrey. Lord Amherst. 1717-1797. British general and field-marshal and governor of Virginia.

Ampere, Andre Marie. 1775-1836. French mathematician and natural philosopher.

Anacreon. B.C. 560?-478. Greek poet. Many of his poems have been rendered into English by Moore.

Anaxagoras. B.C. 500-428. Greek philosopher. "The father of modern science."

Andersen, Hans Christian. 1805-1875. Danish author and novelist.

Anderson, Maj. Robert. 1805-1861. Defender of Ft, Sumter. Anderson, Mary. 1859-... American actress.

Andrassy, Julian, Count. 1823-.... Hungarian statesman.
 Andre, John. 1751-1780. English spy; hanged for his connection with the contemplated treason of Arnold.

Andrew, John Albion. 1818–1867. American statesman and abolitionist; governor of Massachusetts,

Andros, Sir Edmund. 1637-1714. British colonial governor of New England.

Anjou. Famous noble house of France.

Anne of Austria. 1601-1666. Queen of France.

Anne. 1664-1714. Queen of England; last of the Stuarts.

Anthon, Charles. 1797-1867. American classical scholar.

Anthony, St. 251-356? Egyptian founder of monachism. Anthony, Henry B. 1815-... U. S. Senator.

Anthony of Padua, St. 1195-1231. Monk of Franciscan order. Anthony, Susan B. 1820-.... American "woman's rights"

Anthony, Susan B. 1820-... American "woman's rights' advocate.

Antigonus. Cyclops. B.C. 382?—301. General of Alexander the Great.

Antiochus I. King of Syria and Babylonia; reigned B.C. 280-261. II., reigned B.C. 261-246; poisoned by his queen, Laodice. III. (The Great), reigned B.C. 223-187.

Antisthenes. Fl. 400 B.C. Greek philosopher; regarded as the founder of the Cynic school.

Antoinette, Marie. 1755-1793. Queen of Louis XVI. or France; guillotined.

Antonelli, Giacomo. 1806-1876. Italian cardinal.

Antonius, Marcus. Mark Antony. B.C. 93?-30. Roman general and statesman.

Applegarth, Robert. 1831-.... Leader of the workingmen of England.

Aquinas, Thomas. Saint. The Angelic Doctor. 1224-1274.
 Theologian, teacher and writer; member of the order of St. Dominic.
 Arabi Pasha. 1834-... Egyptian revolutionist.

Aram, Eugene. 1704–1759. English scholar; noted for his learning no less than for his tragic fate. Executed for the murder of one Daniel Clark, whom he is said to have killed to procure means for prosecuting his studies. The chief character in one of Bulwer's novels.

cuting his studies. The chief character in one of Bulwer's novels.

Arbuthnot, John. 1675-1735. Scottish physician.

Archimedes. B. C. 287 2-212. Greek mathematician and

Archimedes. B.C. 287?-212. Greek mathematician and natural philosopher.

Argyll (or Argyle), Archibald Campbell, eighth earl. 1598–
1661. Scottish Covenanter; defeated by Montrose; executed for treason.

Argyll (or Argyle), George Douglas Campbell, seventh duke.

1823-... English statesman and author. The Reign of Law.

Ariosto, Ludovico. 1474-1533. Italian poet. Orlando

Furioso, Ludovico, 14/4-1533, Italian poet. Oriando

Aristides. B.C.-468? Athenian general and statesman. Aristophanes. B.C. 444?-380? Greek comic poet.

Aristotle. The Stagirite. B.C. 384-322. Greek philosopher; tutor of Alexander the Great. Ethics.

Arius. 255?-336? Patriarch of Alexandria and founder of the Arian schism.

Arkwright, Sir Richard. 1732-1792. English manufacturer and inventor of the spinning-jenny.

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Arminius. B.C. 16-21 A.D. Ger. hero. See Hermann.
 Arminius, Jacobus (Jacob Harmen). 1560-1609. Dutch founder of the Arminian theology.

Armitage, Edward. 1817-... Eng. historical painter.

Armstrong, John. 1709–1779. Scottish poet and physician.

Armstrong, Sir William George. 1810–.... English inventor of the Armstrong gun.

Arnaud, Henri. 1641-1721. Leader of the Waldenses.

Arndt, Ernst Moritz. 1769-1860. German poet and writer.
Arnheim, Johann Georg von. 1581-1641. German general and diplomatist.

Arnim, Harry Carl Edward von. 1824-1879 Prussian diplomatist.

Arnold, Benedict. 1740-1801. American general and traitor. His plot to betray West Point, one of the most important of American fortresses, into the hands of the British, was betrayed by the capture of Major Andre, and he barely escaped. He became a colonel in the British army, and is said to have received £6,315 from the British as indemnity for the loss he sustained by his treachery.

Arnold of Brescia (or Arnaldo).-1155. Italian reformer, orator and popular leader.

Arnold, Edwin. 1832-... English journalist and poet. Light of Asia.

Arnold, Matthew. 1822-1888. English author, poet and critic.

God and the Bible: The Strayed Reveller: Essays on Criticism, etc.

Arnold, Thomas. 1795-1842. English historian and master of Rugby. History of Rome.

Arnold von Winkelried.-1386. Swiss patriot, who broke the Austrian phalanx at the battle of Sempach by throwing himself against the points of their spears, gathering in his arms all the spears within reach. He was mortally wounded, but his brave action decided

the fate of the battle in favor of his countrymen.

Artemisia. Fl. 480 B.C. Queen of Halicarnassus. Joined the fleet of Xerxes against Greece, and commanded her own ship in the battle of Salamis with courage and ability.

Artemisia. Fl. 350 B.C. Consort of Mausolus, Prince of Caria, and after his death erected in his honor a tomb numbered among the seven wonders of the world.

Artevelde, Jacob van. 1300?-1345. Leader of the people of

Artevelde, Philip var, son of J. v. A. 1340-1382. Leader of the insurrection in Flanders.

Arthur, Chester Allan. 1831-1886. Twenty-first President of the United States. Born at St. Albans, Vermont; read law, was admitted to the bar and began practice in New York city; 1860, quarter-master-general on the staff of Gov. Morgan; 1871, collector of the port of New York, but superseded, 1878, by Gen. Merritt; 1880, placed in nomination for vice-president by the republican party and elected; succeeded to the presidency on the death of Garfield, Sept. 19, 1881.

Arthur, Timothy Shay. 1809-1841. American author. Lights and Shadows of Real Life; Ten Nights in a Bar-Room, etc.

Ascham, Roger. 1515-1568. English scholar and author.
 Ashburton, Alexander Baring, Lord. 1774-1848. English diplomatist. (Ashburton treaty.)

Aspasia of Miletus. B.C....-432? Mistress of Pericles, the Athenian law not permitting a citizen to marry a foreigner. Socrates called himself one of her disciples.

Astor, John Jacob. 1763-1848. Wealthy American merchant, native of Heidelberg, Germany. Settled in New York city, and entered the fur trade with great success, establishing trading posts in the northwest as far as the Pacific Occan and founding Astoria in 1811. He next made extensive investments in real estate, and when he died his property was estimated at twenty millions. Founded the Astor Library.

Atahualpa.-1533. Last Inca of Peru.

Athanasius. 296?-373. Greek father of the church. Athelstan. 895?-941. King of England.

Athenagoras. Fl. 168. Greek Christian philosopher.

Atterbury, Francis. 1662-1732. Eng. prelate and politician.

Attila. The Scourge of God.-453. King of the Huns.

Attucks, Crispus.-1770. Mulatto leader of mob in

Boston massacre.

Auber, Daniel François Esprit. 1784-1871. French composer. Fra Diavolo; Masaniello.

Audubon, John James. 1780–1851. American ornithologist.
 Auerbach, Berthold. 1812–1882. German Jewish author and poet. The Country House on the Rhine.

Augereau, Pierre François Charles, Duc de Castiglione. 1757—
1816. French general. The son of a mechanic, he received but little education. Enlisted as a private in the French army in 1792, but was rapidly promoted, and at the end of a year had attained to the rank of general of division. Throughout his successful military career he exhibited remarkable valor and ability.

Augustine, Saint. 354-430. Latin father of the church.
Augustus I. 1670-1733. King of Poland and elector of Saxony.

Augustus Cæsar. B.C. 63-A.D. 14. First Emperor of Rome.

Aumale, Henri Eugene Philippe Louis d'Orleans, Duc d'.

1822-1883. French general. Son of King Louis Philippe.

Aurelianus. 212-275. Roman emperor.

Aurelius Antoninus, Marcus. Marcus Aurelius. 121-180.
Roman emperor and philosopher

Aurung-Zebe. 1618-1707. Emperor of Hindostan.

Ausonius. 310-394? Latin poet.

Austen, Jane. 1775-1817. English author.

Austin, Saint. Fl. 597. The apostle of England.

Austin, Stephen F.-1836. Founded the first colony in Texas.

Avicenna. 980-1037. Arabian physician.

Aytoun, William Edmondstoune. 1813-1865. Scottish poet.

ABER, Mohammed. 1483?-1530. Founder of the Mogul empire in India.

Baccio della Porta. Fra Bartolommeo di San Marco. 1469-1517. Italian painter, member of the order of St. Dominic. Last Judgment; Marriage of St. Catherine; Virgin on a Throne.

Bach, Johann Sebastian. 1685-1750. German composer and musical director, distinguished also for his skill as a performer on the organ and the piano. The Nativity.

Bache, Alexander Dallas. 1806–1867. American philosopher and savant; great-grandson of Dr. Franklin.

Bache, Franklin. 1792-1864. Am. physician and chemist. Back, Sir George. 1796-1878. English Arctic navigator.

Bacon, Francis, Baron Verulam, Viscount St. Albans. Lord Bacon. 1561-1626. English statesman, jurist and philosopher. Son of Sir Nicholas Bacon, keeper of the great seal under Elizabeth. His youthful precocity caused Queen Elizabeth to call him her "little lord keeper." Studied at Trinity College, and at 15 began to oppose the philosophy of Aristotle. Called to the bar, and made queen's counsel at 28. Solicitor-general, 1607; judge of the marshal's court, 1611; attorney-general, 1613; lord keeper, 1617; lord high chancellor, 1619. Charged with gross bribery and corruption in Parliament, 1621, he pleaded guilty, and was sentenced to pay a fine of £40,000, and to be imprisoned during the royal pleasure, and incapacitated from holding public office. He regained his liberty after two days' imprisonment, his fine, too, being remitted by King James, who also allowed him a pension of £1,200 per annum. He spent the remainder of his life in retirement, diligently pursuing the study of literature and science. The belief

that Bacon is the real author or at least the principal author of the plays attributed to Shakespeare has of late years found many adherents, and numerous books on the subject have been published. The Wisdom of the Ancients: Novum Organum.

Bacon, Nathaniel. 1630?-1677. Virginia patriot, born in England.

Bacon, Roger. The Admirable Doctor. 1214-1292. English philosopher. Opus Majus.

Baconthorp, John. The Resolute Doctor. ...-1346 English monk and philosopher.

Baffin, William. 1580-1622. English navigator. (Baffin's Bay.)
Bailey, Philip James. 1816-... English lawyer and poet.
Festus; The Mystic.

Baillie, Joanna. 1762-1851. Scottish poetess. The Family Legend: Plays on the Passions.

Baillie, Matthew. 1761-1823. Scottish physician.

Baillie, Robert. 1602?-1662. Scottish theologian.

Bailly, Jean Sylvain. 1736-1793. French astronomer and philosopher. 1789, first president of the States-General; mayor of Paris same year. Endeavoring, with Lafayette, to curb the violence of the revolutionists, he caused the National Guard to fire on a riotous mob in the Champ de Mars, in 1791, thus incurring the enmity of the people. Executed by the Jacobins.

Baily, Edward Hodges. 1788-1867. English sculptor.

Baily, Francis. 1774-1844. English astronomer.

Bainbridge, William. 1774-1833. Am. naval commander.

Baird, Sir David. 1757-1829. Scottish general.

Baird, Spencer F. 1823- American naturalist.

Bajazet (or Bayazeed). 1347-1403. Sultan of the Ottomans. Subjugated Bulgaria, Asia Minor, and a portion of Greece, and gained a victory over the Hungarians, French and Poles at Nicopolis, in 1396. Defeated and captured in 1401 by Tamerlane, by whom he is said to have been confined in an iron cage.

Baker, Sir Samuel White. 1821—.... English African explorer, and author of geographical and literary works. In 1847 he established a sanatorium and prosperous agricultural settlement in the mountains of Ceylon, 6,200 feet above sea level, whither he conveyed emigrants and the best breeds of sheep and cattle. In 1861-4 explored, at his own expense, the region lying around the sources of the White Nile; discovered and named Lake Albert N'yanza, and found the exit of the Nile. In 1869, the sultan of Turkey placed at his disposal 1,500 troops, with which another expedition was made to the great African lakes.

Baker, Valentine, Pasha. English officer and commander of Egyptian troops in the Soudan.

Balboa, Vasco Nuñez de. 1475?-1517. Spanish discoverer. Discovered the Pacific Ocean, 1513. The jealousy of his superior officers caused his conviction on a charge of treason, for which he was executed.

Baldwin I. 1058-1118. King of Jerusalem; brother of Godfrey de Bouillon.

Balfe, Michael William. 1808-1870. Irish composer. The

Baliol, Edward.-1363. King of Scotland.

Baliol, John.-1269. English baron; father of Edward Baliol.

Baliol, John de. 1259?-1314. Son of the preceding. King of Scotland; rival of Bruce.

Ballou, Hosea. 1771-1852. American theologian; founder of the denomination of Universalists.

Balmes, Jaime Lucio. 1810-1848. Spanish philosopher and theologian.

Balzac, Honoré de. 1799-1850 French novelist.

Bancroft, George. 1800-1887. American historian and diplomatist. Minister to Germany and to England; secretary of the navy. History of the United States, which has been translated into all the principal languages of Europe.

Baner (or Banier), Johan. 1595-1641. Swedish general.

Banks, Nathaniel Prentiss. 1816—... American general and politician. Native of Massachusetts; worked during boyhood in a cotton factory; learned the machinist's trade; edited a country newspaper; admitted to the bar; elected to Legislature of his native state in 1849, and three years later became speaker. Sent to Congress in 1852 as a Democrat, and in 1854 re-elected by the American and Republican parties. Speaker of House in 1855. Served three terms as Governor of Massachusetts, and in 1861 was appointed major-general of volunteers. After the war was sent to Congress in 1866, 1868 and 1870. Supported Horace Greeley for presidency in 1872. Re-elected to Congress in 1876 by Democrats and disaffected Republicans.

Banks, Thomas. 1735-1805. British sculptor.

Banneker, Benjamin. 1731-1806. American negro mathe-

Barbarossa, Hadher. 1476?–1546. Corsair king of Algiers.
Barbaroux, Charles Jean Marie. 1767–1794. French representative and Girondist; beheaded by the Jacobins.

Barbauld, Anna Letitia. 1743-1825. English authoress. Barbour, John. 1320?-1395? Scottish poet. The Bruce.

Barclay de Tolly, Michael, Prince. 1755-1818. Russian field-marshal.

Barclay, Robert. 1648-1690. Scottish Quaker author.
 Barham, Richard Harris. 1788-1845. English divine and humorist. Ingoldsby Legends.

humorist. Ingoldsby Legends.

Barebone, Praise God. ...-1680. English fanatic.

Baring, Sir Francis. 1740–1810. English capitalist.

Barlow, Joel. 1755-1812. American patriot and poet. Barnard, John's. 1815-1882. American general and writer.

Barnecides. Famous Persian family, noted for its tragic fate.

Barnes, Albert. 1798–1870. American theologian and commentator

Barneveldt, Johan van Olden. 1549-1619. Dutch statesman. Barnum, Phineas T. 1810-.... American showman; native of Connecticut. Humbugs of the World.

Barras, Paul François Jean Nicola, Count de. 1755-1829. French statesman.

Barry, James. 1741-1806. Irish painter.

Barry Cornwall. See Procter.

Barthelemy Saint-Hilaire, Jules. 1805-.... French statesman and writer.

Baxter, Richard. 1615-1691. English Dissenting minister and writer. The Saints' Everlasting Rest; Call to the Unconverted.

Bayard, Pierre du Terrail de. 1475-1524. French warrior, whose bravery earned for him the sobriquet "The cavalier without fear and without reproach." Francis I. showed the universal reverence for Bayard's character by choosing to be knighted at his hands. Mortally wounded at Romagnano, Bayard would not allow himself to be carried from the field of battle, refusing to "turn his back to the enemy for the first time."

Bayle, Pierre. 1647-1706. French philosopher and critic.

Bazaine, François Achille. 1811-1888. French general. Made general of division during the Crimean war; held a command in the French expedition to Mexico, in 1862, with great distinction, and succeeded to the supreme command in 1863. Created a marshal of France in 1864. In the Franco-German war he surrendered the fortress of Metz, with 173,000 men, 6,000 officers, 50 generals and 3 marshals, and fled to England. He was court-martialed and sentenced to degradation and death, but the sentence was commuted to twenty years' imprisonment. Confined at the isle Sainte Marguerite, he escaped in nine months and settled in Madrid.

Beaconsfield, Benjamin Disraeli, Earl of. 1804-1880. English statesman and novelist. His first novel, Vivian Grey, was published at the age of 21. Entered Parliament in 1837, and became the leader of the Conservative party. Acted as chancellor of the exchequer a number of years, and in 1868 was prime minister of England for a few months. Was again called to the premiership in 1874, and was raised to the peerage. Was succeeded in 1880 by William E. Gladstone.

Beaton (or Beatoun), David, Cardinal. 1494-1546. Primate of Scotland.

Beattie, James. 1735-1803. Scottish poet and philosopher. Beauharnais, Eugene de. 1781-1824. French general; son of Alexander de Beauharnais and Josephine, afterward Empress of France.

Beaumarchais, Pierre Auguste Caron de. 1732-1799. French dramatist.

Beaumont, Francis. 1586-1615. English dramatic writer; associate of John Fletcher.

Beauregard, Peter Gustavus Toutant. 1816-... American Confederate general. Born in Louisiana; graduate of West Point; served in Mexico. Entered Confederate army in 1861, and commanded at Fort Sumter and at the first battle of Bull Run; defeated at Shiloh by Gen. Grant in 1862; defended Charleston in 1863.

Becket, Thomas à. 1117-1170. Archbishop of Canterbury; high chancellor of England. Having excommunicated two bishops for complying with the king's will, he was assassinated by four barons of the royal household. Canonized in 1172.

Bede. The Venerable. 673?-735. English monk and ecclesiastical writer. Ecclesiastical History of the English Nation.

Bedford, John Plantagenet, Duke of. 1390-1435. English general. Regent of France and protector of England during the minority of Henry VI. Defeated by Joan of Arc.

Beecher, Henry Ward. 1813-1887. American divine and lecturer. Born in Connecticut. Pastor of Plymouth Congregational Church, Brooklyn, since 1847. Powerful advocate of the abolition movement. Star Papers; Sermons.

Beecher, Lyman. 1775-1863. American divine. Father of H. W. B. Views on Theology.

Beethoven, Ludwig von. 1770-1827. German composer. Sinfonia Eroica; Lenore; Fidelio; Ninth Symphony.

Behring, Vitus. 1680-1742? Danish navigator. Discovered Behring's Strait; suffered shipwreck while commanding an expedition to the northern seas and died on Behring's Island.

Belisarius. 505?-565. Byzantine general.

Bell, Sir Charles. 1774-1842. Scottish physiologist.

Bellini, Vincenzo. 1802-1835. Italian composer. La Sonnambula; I Puritani; Norma.

Belvedere, Andrea. 1646-1732. Italian painter.

Belzoni, Giovanni Battista. 1778-1823. Italian traveller.

Bendemann, Edward. 1811-.... German painter.

Benedek, Ludwig von. 1804-1878. Hungarian general.

Benedict I. Pope from 575 to 578. II., 684-685. III., 855-858. IV., 900-903. V., chosen pope 964 but driven from Rome by Otho I., died at Hamburg 965. VI., 972-974; killed by the people of Rome. VII., 975-984. VIII., 1012-1024. IX., ascended the pontifical chair in 1034, but was driven from Rome. X., 1058-1059, when he was deposed on account of being irregularly elected. XI., 1303-1304. XIII., 1334-1342. XIII., 1724-1730. XIV., 1740-1758.

Benedict XIII. 1334-1424. Anti-Pope. Original name, Pedro de Luna. Chosen pope at Avignon in 1394, while Boniface IX. reigned at Rome. Both were deposed in 1415 by the council of Con-

Benedict, Sir Julius. 1804-.... German musician and composer, residing in England since 1835.

Benezet, Anthony. 1713-1784. French philanthropist.

Bennett, James Gordon. 1800-1872. American journalist; native of Scotland; founded the New York Herald.

Benjamin, Park. 1809-1864. Am. journalist and poet.

Bentham, Jeremy. 1748-1832. English jurist and utilitarian philosopher.

Bentinck, William Charles Cavendish, Lord. 1774-1839.
British general; governor-general of India.

Bentley, Richard. 1662-1742. English classical scholar and divine. The Epistles of Phalaris.

Benton, Thomas Hart. 1782-1858. American statesman. Born at Hillsboro, N. C.; removed to Tennessee, where he studied law, and commenced practice at 20. Commanded a regiment under Gen. Jackson, who, in a quarrel, attempted to strike Benton with a horsewhip, causing Benton's brother to severely wound Gen. Jackson with a pistol. Benton shortly after removed to St. Louis, where he published a political paper. Elected to the United States Senate in 1820, he continued a member of that body for thirty years, being defeated in 1850 by a division in the Democratic party on the slavery question. His advocacy of a gold and silver currency during his second term in the Senate earned for him the sobriquet of "Old Bullion." Elected in 1852 to the National House of Representatives, he earnestly opposed the repeal of the Missouri Compromise. Defeated for the governorship of Missouri in 1856. Favored Buchanan for the presidency in opposition to his son-in-law, Fremont. A Thirty Years' View.

Beranger, Pierre Jean de. 1780-1857. French lyric poet.
Bergerac, Cyrano de. 1620-1655. Fr. dramatist and duelist.
Beriot, Charles Auguste de. 1802-1870. Belgian violinist and composer.

Berkeley, George. 1684-1753. Irish Protestant prelate and metaphysician. The Principles of Human Knowledge.

Berlichingen, Götz von. Of the Iron Hand. 1480-1562. German warrior; hero of one of Goethe's dramas.

Berlioz, Louis Hector. 1803-1869. French composer. The Damnation of Faust: symphonics, Harold, Romeo and Juliet.

Bernadotte, Jean Baptiste Jules. 1764-1844. Marshal of France; King of Sweden and Norway as Carl XIV. Johan.

Bernard, Saint. 1091-1153. French ecclesiastic, canonized 1174. Abbot at Clairvaux, refusing other ecclesiastical preferment, but exerting great power over Europe.

Bernard de Menthon, Saint. 923-1008. Founder of the hospices of St. Bernard.

Bernardo del Carpio. Fl. 9th century. Spanish soldier.

Bernhardt, Sara (Mme. Damala). 1850-... Fr. tragedienne. Bert, Paul. 1833-... French physician and politician.

Berthier, Louis Alexandre, Prince of Wagram. 1753-1815.

Marshal of France.

Berthollet, Claude Louis. 1748-1822. French chemist.

Berwick, James Fitz-James, Duke of. 1660-1734. Marshal of France; natural son of James 11. of England.

Bessel, Friedrich Wilhelm. 1784-1846. Prus. astronomer.

Bessemer, Henry. 1813-.... English engineer. (Bessemer process.)

Beust, Friedrich Ferdinand von, Count. 1809-.... German statesman.

Beza, Theodore. 1519-1605. Fr. Calvinistic theologian.
 Biddle, John. The father of English Unitarians. 1615-1662.
 English theologian.

Biddle, Nicholas. 1786-1844. American financier.

Bierstadt, Albert. 1829-1882. American landscape painter, native of Germany.

Billings, William. 1746-1800. American musical composer. Binney, Amos. 1803-1847. American naturalist.

Binney, Horace. 1780-1875. American lawyer.

Birney, James G. 1792-1857. American politician.

Bird, Robert Montgomery. 1803-1854. American author.

Bismarck-Schonhausen, Karl Otto, Prince. 1815-....
German statesman; chancellor of the German Empire.

Bjornson, Björnstjerne. 1832-... Norwegian poet and novelist.

Black Hawk. 1767-1838. American Indian chies.

Black, William. 1841-... Scottish author. A Princess of Thule: MacLeod of Dare; A Daughter of Heth.

Blackburn, Joseph Clay Stiles. 1838-... Am. statesman.
Blackstone, Sir William. 1723-1780. English jurist. Commentaries on the Laws of England.

Blackwood, William. 1776-1817. Scottish publisher. Blackwood's Magazine.

Blaine, James Gillespie. 1830-.... American statesman.

Born in Pennsylvania; removed to Maine, where he edited the Portland Advertiser; served four terms in the Legislature; in Congress from 1862 to 1876, and speaker for three terms. Prominent candidate for the Republican nemination for the presidency in 1876 and 1880. Chosen United States senator in 1877, but resigned to accept the secretaryship of state under Garfield.

Blair, Hugh. 1718-1800. Scottish divine and rhetorician.

Blake, Robert. 1599-1657. British admiral, regarded as the founder of England's naval supremacy.

Blake, William. 1757-1828. English poet and artist.

Blanc, Jean Joseph Louis. 1813-1883. French journalist, historian and politician.

Blanchard, Thomas. 1788-1864. American inventor.

Blennerhasset, Harman. 1770-1831. Friend and accomplice of Aaron Burr.

Blessington, Margaret, Countess of (née Power). 1789-1849.

Beautiful and accomplished Irish lady.

Blind, Carl. 1820-... German radical.

Bloomfield, Robert. 1766–1823. English poet. A tailor's son and a shoemaker's apprentice. The Farmer's Boy.

Blucher, Gebhard Lebrecht von. Marschall Vorwärts. 1742

-1819. Prussian field-marshal. Decided the battle of Waterloo.

Blumenthal, Leonard von. 1810-.... Prussian general and strategist.

Boabdil. ...-1536? Last Moorish king of Granada.

Boadicea. ...-62. British queen.

Bobadilla, Francisco de. Fl. 1500. Spanish administrator who sent Columbus in chains to Spain.

Boccaccio, Giovanni. 1313-1375. It. novelist. *Decameron*. Bodenstedt, Friedrich Martin. 1819-.... German poet and author.

Boerhaave, Herman. 1668-1738. Dutch physician and philosopher.

Boethius, Anicius Manlius Torquatus Severinus. 475-525? Roman statesman and philosopher. Falsely charged with treason, he was beheaded. De Consolatione Philosophiæ.

Bogardus, James. 1800-1874. American inventor.

Bohn, Henry George. 1800-.... English publisher.

Boileau-Despreaux, Nicolas. 1636-1711. French poet and satirist.

Boleyn, Anne. 1507?-1536. Second queen of Henry VIII. of England. Beheaded.

Bolingbroke, Henry St. John, Viscount. 1678-1751. English author, orator and politician. Dissertation on Parties.

Bolivar, Simon. 1783-1830. Liberator of the South American colonies.

Bonaparte, Charles Louis Napoleon. Napoleon III. 1808–
1873. Son of Louis Bonaparte. Emperor of the French. As claimant to the throne of France, he attempted in 1836 to take Strasburg, but was banished. In 1840 he was imprisoned in Havre for an attempted insurrection at Boulogne, but escaped to England in 1846. Returning to France after the revolution of 1848, he was elected president. He gained the support of the army, and abolishing popular representation by the coup d'etal of 1851, was declared emperor. In 1853 he married Eugenie, Countess de Teba. Having surrendered at Sedan, after the decisive battle of the Franco-German war, he was deposed and retired to Chiselhurst, in England, where he died.

Bonaparte, Jerome. 1784-1860. Youngest brother of Napoleon I. King of Westphalia.

Bonaparte, Joseph. 1768-1844. Eldest brother of Napoleon I. King of Spain.

Bonaparte, Louis. 1778-1846. Brother of Napoleon I. King of Holland.

Bonaparte, Lucien, Prince de Canina. 1775-1840. Brother of Napoleon I.

Bonaparte, Napoleon. Napoleon I. 1769-1821. Emperor of the French. Born at Ajaccio, Corsica. Attended a military school from 1779 to 1784, and showed particular aptitude for history and mathematics. Entered the army as sub-lieutenant in 1785, and in 1792 had risen to the rank of captain of artillery. In 1793 he submitted a plan for the reduction of Toulon, held by the English and Span ards, and was entrusted with its execution. His success in this undertaking won for him a commission as brigadier-general. In 1794, on the fall of Robespierre, Napoleon was suspended and put under arrest, his detention, however, being of short duration. In the spring of 1705, on the remodelling of the army, he was again suspended, and placed upon half-pay, the only reason given by the authorities being that he was too young to command the artillery of an army. In the fall, on the breaking out of a formidable insurrection led by the National Guard, the whole force of insurgents numbering more than 30,000, the convention recalled Napoleon, who, with only 5,000 regulars and 1,500 volunteers, gained a brilliant victory after a brief but sanguinary engagement. This victory made him virtually commander-in-chief of the army of the interior. In 1706 he was appointed to the command-in-chief of the army of Italy, and in the same year married Josephine de Beauharnais. In his very first campaign Napoleon appeared a consummate general. His peculiar mode of attack consisted in precision of movement, concentration of forces and formidable charges upon a determinate point. In a few weeks he gained four victories, conquered Lombardy and laid siege to Mantua, which he captured after almost annihilating three Austrian armies. Napoleon then turned his arms against the Pope, compelling him to pay 30,000,000 lires and surrender many valuable works of art. After defeating another Austrian army sent to Italy, Napoleon concluded a treaty securing his brilliant success. In 1798 he was given command of a powerful expedition into Egypt, the intention being to strike at the power of Great Britain, and gained a decisive victory over the Mamelukes and Turkish auxiliaries at the battle of the Pyramids, and another at Aboukir. Returning to France, he overthrew the Directory and was elected first consul. In 1800 he gained the great victory of Marengo. Made peace with England 1802, granted general amnesty, established public order, re-established the Catholic faith, and produced his Civil Code. Napoleon became emperor in 1804, and engaged in war with England, Russia, Sweden and Prussia. Divorced from Josephine in 1809, he married Maria Louise, daughter of the Emperor of Austria, in 1810. In 1812 occurred the ill-fated Russian campaign, Napoleon's loss being estimated at 450,000 men. Beaten at Leipzig, 1813, he made a disastrous retreat. In 1814 the allies entered Paris, compelled Napoleon to abdicate, and sent him to Elba, granting him the sovereignty of that island, with a yearly pension of 6,000,000 francs. Returning again to France, he was enthusiastically received and raised an army of about 125,000, but was completely defeated at Waterloo, 1815. He abdicated again, and, unable to carry out his intention of embarking for America, he surrendered to the captain of a British man-of-war. Carried to the island of St. Helena, he died there in 1821 after nearly six years'

Bonaparte, Napoleon Joseph Charles Paul. Prince Napoleon. 1822-.... Son of Napoleon I. and Maria Theresa.

Bonaparte, Napoleon François Charles Joseph. Napoleon II. 1811-1832. Son of Napoleon I. and Maria Theresa.

Bonaventura, Saint. The Scraphic Doctor. 1221-1274. Italian theologian.

Bonheur, Rosa (or Rosalie), 1822-.... French painter of animals.

Boniface I. Pope, ruling from 419 to 422. II., 530-532. III., elected 607 and died same year. IV., 668-615. V., 619-624; distinguished for his efforts to convert the Britons VI., died in 805, fifteen days after his election to the Papacy. VII. (Anti-Pope), elected 974, during reign of Benedict VI; driven from Rome, but returned in 985, imprisoning John XIV., who is said to have been starved to death; died 985 VIII., 1294-1303. IX., 1389-1404

Boniface, Winfred, Saint. Apostle of Germany. 680-755?
 Bonner, Edmund. Bloody Bonner. 1490?-1569. Bishop of London, noted for his persecution of the Protestants.

Bonneville, Benjamin L. E. 1795?-1878. American soldier and traveller.

Bonnivard, François de. 1496-1570. The hero of Byron's Prisoner of Chillon.

Boone, Daniel. 1735-1820? American pioneer. Born in Pennsylvania, but removed in boyhood to North Carolina. Visited Kentucky, hitherto unexplored, in 1769, and emigrated to that State with his own and five other families in 1773, constructing a fort at Boonsborough in 1775. Captured by the Indians, he was adopted by them, but escaped and returned to the fort, which was shortly after attacked by Indians under the British flag. The fort was ably defended, two of Boone's sons, however, being killed. Boone lost his lands in Kentucky in consequence of a defective title, and, removing to Missouri, pursued the occupation of a hunter and trapper.

Booth, Edwin. 1833-.... Son of Junius Brutus Booth.

American tragedian.

Booth, John Wilkes. 1835–1865. Son of Junius Brutus Booth.

American actor, who became infamous as the assassin of Abraham
Lincoln, whom he shot at the theatre on the evening of April 14th, 1865.

Effected his escape, but was traced into Virginia, where, refusing to surrender, he was shot.

Booth, Junius Brutus. 1796-1852. English tragedian.

Borden, Simeon. 1798-1856. American civil engineer.

Borgi, Giovanni. 1735-1802. Italian founder of ragged

Borgia, Cesare, Duc de Valentinois. 1457-1507. Natural son of Alexander VI. Italian cardinal and military leader. Made cardinal in 1492, but afterwards secularized. Notorious for cunning, perfidy and cruelty.

Borgia, Francisco. See Francis, Saint.

Borgia, Lucrezia, Duchess of Ferrara.-1523. Sister of Cesare Borgia. Distinguished for beauty and talents, and a patron of learning, but contemporaneous writers differ in their estimation of her character.

Borromeo, Carlo, Saint. 1538-1584. Italian cardinal, noted for benevolence and care of the sick.

Borrow, George. 1803-1881. English author and traveller. Bos, Hieronymus. 1450?-1500. Dutch painter.

Boscawen, Edward. 1711-1761. English admiral.

Bossuet, Jacques Benigne. 1627-1704. French prelate, orator and controversialist.

Boswell, James. 1740-1795. Scottish lawyer; biographer of Dr. Johnson. Bothwell, James Hepburn, Earl of. 1526?-1577? Scottish conspirator; husband of Mary of Scotland.

Bottcher, Johann Friedrich. 1682-1719. Inventor of Dresden china.

Boucicault, Dion. 1822-.... Irish dramatist, residing in New York since 1876. Colleen Bawn; The Octoroon.

Boudinot, Elias. 1740-1821. Am. philanthropist and patriot. Bouillon, Godfrey de. 1060?-1100. Leader of the first Crusade.

Bourbaki, Charles Denis Sauter. 1816-... Fr. general.

Bourbon. The name of a famous dynasty reigning in France from 1589 to 1848, excepting the republic and the empire of the first Napoleon.

Bourbon, Charles, Duc de. Constable Bourbon. 1490-1527.
French general. Killed after mounting the wall of Rome at the head of his troops. A prominent character in Byron's The Deformed Transformed.

Bourdaloue, Louis. 1632-1704. French Jesuit orator.

Bourdon, Sebastien. 1616-1671. French painter.

Bourne, Hugh. 1772-1852. English founder of Primitive Methodism.

Bowditch, Nathaniel. 1773-1838. American mathematician; son of a cooper. Navigation.

Bowdoin, James. 1727-1790. American statesman.

Bowles, Samuel. 1826-: 878. American journalist.

Bowles, William Lisle. 1762-1850. English poet.

Bowring, Sir John. 1792–1872. Eng. scholar and statesman. Boyce, William. 1710–1779. Eng. organist and composer.

Boydell, John. 1719–1804. Eng. engraver and art publisher. Boyle, Robert. 1626–1691. Irish experimental philosopher

and philanthropist. Disquisition on Final Causes.

Bozzaris, Marcos. 1790-1823. Patriotic leader in the Greek war for independence. Slain in a night attack upon the Turks.

Braddock, Edward. 1715?-1755. English general in Ametica. Killed by Indians.

Braddon, Mary Elizabeth. 1837-... English novelist; editor of Belgravia. Lady Audley's Secret; Dead Sea Fruit; An Open

Verdict.

Bradford, William. 1590-1657. Governor of Plymouth colony.

Bradford, William. 1660-1752. First printer in Pennsylvania.

Bradshaw, John. 1586-1659. English republican judge.

Bradstreet, Anne. 1612-1672. American poetess.

Bradstreet, John. 1711-1774. American major-general.

Bragg, Braxton. 1815-1876. Confederate general.

Brahe, Tycho. 1545-1601. Swedish astronomer.

Brainerd, David. 1718-1747. American missionary.

Bramante d' Urbino. Donato Lazari. 1444-1514. Italian architect of St. Peter's.

Brandt, Joseph. Thayendanega. 1742?-1807. Half-breed chief of the Mohawks.

Breckenridge, John Cabell. 1821-1875. American statesman and Confederate general. Born in Kentucky. Vice-president 1857-61 Democratic candidate for the presidency in 1860. Elected to the United States Senate from Kentucky in 1861, but resigned to enter the Confederate army. Confederate secretary of war, 1865.

Bremer, Fredrika. 1802-1865. Swedish novelist. The Neighbors: The Homes of the New World.

Brentano, Clemens. 1777–1842. German novelist and poet. Brenghel, Jan. 1569–1625. Flemish painter.

Brewster, Sir David. 1781-1868. Eng. optician and physicist.

Brian Boru (or *Boroihme*). 72??-1014. King of Ireland. Bridget, Saint. 1302-1373. Patroness of Ireland.

Bridgman, Laura. 1829-188q. American blind deaf-mute, noted for her mental acquirements.

Bright, John. 1811-1889. English statesman and orator.

Bright, Richard. 1789-1858. English physician.

Brillat-Savarin, Anthelme. 1755-1826. French author.

Physiology of the Taste.

Brissot de Warville, Jean Pierre. 1754-1793. French leader of the Girondists; beheaded.

Broglie, Charles Jacques Victor Albert, Duc de. 1821-....
French statesman and writer.

Bronte, Charlotte. Currer Bell. 1816-1855. English novelist. Jane Eyre; Shirley: Villette.

Brooks, James. 1810-1873. American journalist.

Brougham, Henry, Lord. 1779-1868. British author, statesman and orator.

Brown, Charles Brockden. 1771-1810. Am. novelist.

Brown, Hablot, Knight. Phiz. 1815-1882. English comic designer.

Brown, John, Captain. 1800-1859. Born in Connecticut, and a tanner by trade. Removed to Kansas and became prominent as an abolitionist, and gained the title of "Ossawatomie" by a victory, in 1856, over a company of Missourians vastly exceeding his own force in number. In pursuance of a plan for the invasion of Virginia and the emancipation of slaves, he surprised Harper's Ferry in 1859, and took the arsenal and armory and forty prisoners. Attacked the next day by the United States marines and the Virginia militia, two of his sons and most of his company of twenty men were killed, and he himself was wounded and taken prisoner. He was tried and hanged at Charlestown, Virginia, the same year.

Brown, Thomas. 1778-1820. Scottish metaphysician.

Browne, Charles F. Artemus Ward. 1835-1867. American humorist.

Browne, Sir Thomas. 1605-1682. English physician, philosopher and author. Religio Medici; Enquiries into Vulgar and Common Errors.

Browning, Elizabeth Barrett. 1809–1861. Wife of Robert Browning. English poetess. Aurora Leigh; Casa Guidi Windows.

Browning, Robert. 1812-1889. English poet. The Ring and the Book; Strafford; Men and Women; Fifine at the Fair; A Soul's Errand.

Brownlow, William Gannaway. Parson Brownlow. 1805-1877. American politician.

Brownson, Orestes Augustus. 1803-1876. Am. theologian.
 Bruce, James. 1730-1794. Scottish traveller; discovered the source of the Blue Nile.

Bruce, Robert. 1274-1329. King of Scotland. Defeated Edward II. at Bannockburn, in 1314. The greatest of the rulers of Scotland.

Brummel, George Bryan. Beau Brummel. 1778-1840. English man of fashion.

Brunel, Isambard Kingdom. 1806–1859. Eng. engineer.

Brunel, Sir Mark Isambard. 1769-1849. English engineer, born in France. Built the Thames tunnel.

Brunelleschi, Filippo. 1377-1444. Italian architect and sculptor.

Bruno, Saint. 1040?-1191. German founder of the Car-

Brutus, Lucius Junius. Fl. 500 B.C. Roman patriot; overthrew Tarquin.

Brutus, Marcus Junius. 80-36 B.C. One of Cæsar's assassins; committed suicide after his defeat at Philippi. Bryant, William Cullen. 1794–1878. American poet and journalist; born in Massachusetts. At 13 composed The Spanish Revolution and The Embargo. Entered Williams College, read law, and was admitted to the bar in 1816. Published Thanatopsis in 1816. Became editor of the New York Evening Post in 1826. He was a firm opponent of slavery.

Buchanan, George. 1506–1582. Scottish historian and poet. Buchanan, James. 1791–1868. Fifteenth president of the United States. Born in Pennsylvania. Admitted to the bar, 1812; member of Congress, 1821–31; minister to Russia, 1832–4; U.S. senator, 1834–5; secretary of state, 1845–9; minister to England, 1853–6; signed Ostend manifesto in 1854; president, 1857–61. In his last message, President Buchanan censured the Northern people for the imminent disruption of the Union, holding that neither the executive nor Congress had power to coerce a state.

Buckland, William. 1784-1856. English geologist.

Buckle, Henry Thomas. 1822-1862. English writer. History of Civilization.

Buddha (or Booddha), Gautama. 624-523 B.C. Hindoo reformer; founder of Buddhism.

Buell, Don Carlos. 1818?-... American general.

Buffon, Georges Louis Leclerc de, Comte. 1707-1788. French naturalist and philosopher. Natural History: Epochs of Nature.

Bull, Ole Bornemann. 1810-1882. Norwegian violinist.

Bulow, Bernhard Einst von. 1815-.... German statesman. Bulow, Friedrich Wilhelm von, Count. 1775-1816. Prussian general.

Bulow, Hans Guido von. 1830-... German pianist.

Bulwer-Lytton, Edward George Earle Lytton, Baron Lytton. 1805-1872. English novelist.

Bulwer-Lytton, Edward Robert, Baron Lytton. Owen
Meredith. 1831-.... Son of the preceding. English poet.

Bulwer, Sir Henry Lytton Earle. 1804-1872. English author and diplomatist.

Bunsen, Christian Karl Josias von, Baron. 1791-1860. German philologist and diplomatist.

Bunyan, John. 1628-1688. English author. The son of a tinker, he followed that vocation and led for many years a dissipated, wandering life; served in the Parliamentary army; joined the Anabaptists in 1654, and in 1655 became a Baptist minister; sentenced to transportation for life on a charge of promoting seditious assemblies, but sentence not enforced; was, however, imprisoned for more than twelve years, and during this time wrote his Pilgrim's Progress. After his release he was minister of the gospel at Bedford, and became very popular. Among his other works are The Holy City and The Holy War.

Burckhardt, Johann Ludwig. 1784-1817. Swiss traveller.

Burdett-Coutts, Angela Georgina, Baroness. 1814-.... English philanthropist.

Burger, Gottfried August. 1748-1794. German poet.

Burgoyne, John. 1730-1792. English general and dramatist. Surrendered at Saratoga.

Burke, Edmund. 1730-1797. English (Irish) orator, statesman and writer. Prominent as the ablest member of the Commons to oppose the ministry's American policy. Impeached Warren Hastings in 1788. Reflections on the Revolution in France.

Burke, Thomas N. 1830-1883. Irish Dominican orator.

Burleigh, William Cecil, Lord. 1520-1598. Eng. statesman.

Burlingame, Anson. 1822-1870. American diplomatist; negotiator of treaty between the United States and China.

Burnet, Gilbert. 1643-1715. British prelate and historian.

History of My Own Times.

Burns, Robert. 1759–1796. Scotch lyric poet. Born at Ayr; the son of a poor farmer. Burns worked hard on his father's farm and had little opportunity for education. Began rhyming at the age of 16, and studied mensuration and surveying. His poems brought him into society, where he acquired dissipated habits. Formed a liaison in 1785 with Jean Armour, whom he married in 1788. Intended to emigrate, but the popularity of his poems, published in full in 1787, induced him to remain in Scotland. He afterward became an officer of the excise. The principal characteristics of Rurns' poems are beauty and independence of thought and intensity of feeling. The Cotter's Saturaday Night: Tam O'Shanter: To the Unco' Guid; Halloween: Holy Willie's Prayer.

Burnside, Ambrose Everett. 1824-1881. American general.

Burr, Aaron. 1756-1836. American statesman and lawyer.

In 1800 Burr and Jefferson were the Democratic candidates for president and vice-president. Receiving the same number of votes, the House gave the higher office to Jefferson. Burr's course in endeavoring to supplant Jefferson lost him the regard of his party. Unsuccessful as candidate for governor of New York in 1804, Burr attributed his defeat to Alexander Hamilton, whom he killed in a duel. After the expiration of his term as vice-president, Burr was tried for treason, charged with the subversion of federal authority, and with raising an expedition for the conquest of Mexico, but acquitted.

Burritt, Elihu. The Learned Blacksmith. 1810-1879. American scholar and journalist. The son of a shoemaker, and apprenticed to a blacksmith, he devoted all his spare time to study, and eventually mastered eighteen foreign languages. He became a successful lecturer and advocated many reforms.

Burton, Richard Francis. 1821-.... Irish traveller in

Burton, Robert. 1576-1640. English philosopher. Anatomy of Melancholy.

Bushnell, Horace. 1802-1876. American divine.

Butler, Benjamin Franklin. 1818-.... American politician, lawyer and general. Born in New Hampshire. Butler applied the term "contraband of war" to the slaves who sough: protection at Fortress Monroe while he was in command there. Military governor of New Orleans in 1862, ruling with vigor and efficiency and preserving the city from the yellow fever. Went to Congress as a Republican in 1866, and was re-elected for several terms. Elected governor of Massachusetts in 1882 by the Democrats, but defeated for the same office a year later.

Butler, Joseph. 1692-1752. English theologian.

Butler, Samuel. 1612?-1680. English poet. Hudibras.

Byng, John. 1704-1757. Eng. admiral, shot for cowardice. Byron, George Gordon Noel, Lord. 1788-1824. English poet. Born in London and educated in Scotland. Travelled 1809-11, and on returning produced the first cantos of Childe Harold. Giaour and Bride of Abydos, 1813; Corsair, 1814. In 1815 he married Anne Isabel Millbank, but separated from her and left England in 1816. In Italy he formed a liaison with the beautiful Countess Guiccioli. Espousing the cause of the Greeks in their struggle for liberty, he left for Greece in 1823, and died the following year at Missolonghi from the effects of exposure while preparing for the siege of Lepanto. Byron's poetry is characterized by intense emotion, and by rare taste and marvellous felicity in composition. Childe Harold's Pilgrimage; Don Justin.

ABALLERO, Fernan. 1787–1877. Pseudonym of the Spanish novelist Cecilia Bohl de Faber.

Cabanel, Alexandre. 1823-... French historical painter.

Cabanis, Pierre Jean George. 1757-1808. French physician and philosopher.

Cabot, George. 1751-1823. President of the Hartford Convention.

Cabot, John.-1498? Venetian navigator in the service of England. Discovered North American continent in 1497.

Cabot, Sebastian. 1477?-1557. Son of preceding. English navigator.

Cade, John. Jack Cade. ...-1450. Irish rebel.

Cadoudal, George. 1769-1804. French Bourbon general.

Executed for plotting the dethronement of Napoleon I.

Cadwalader, George.-1879. American general.

Cadwalader, John. 1743-1786. American general.

Cædmon.-680? Anglo-Saxon poet. The Creation.

Cæsar, Caius Julius. 100-44 B.C. Roman general and statesman. Elected Consul 60 B.C.; formed a secret alliance with Pompey and Crassus known as the first triumvirate. It is said that during his Gallic wars a million of men were slain, eight hundred cities and towns captured and three hundred tribes subdued. Pompey having become Cæsar's enemy through jealousy, the latter crossed the Rubicon, 49 B.C., and in a short time became master of Italy. Having conquered all his enemies, and subdued Spain and Africa, Cæsar was made perpetual dictator, and roceived from the Senate the title of Imperator. Although beloved by the masses, the patricians fee. ed and hated him, and the result of a conspiracy of Cassius, Brutus and others was his assassination.

Cagliari, Paolo. Paul Veronese. 1530?-1588. Italian painter.

Cagliostro, Alexandro (Joseph Balsamo). 1743-1795. Italian impostor and adventurer, physician and alchemist.

Caille, Nicolas Louis de la. 1713-1762. French astronomer.

Caillet, Guillaume.-1359. French insurgent leader.

Cajetan, Thomas de Vio. 1469-1534. Italian prelate.

Calderon de la Barco, Don Pedro. 1600-1683. Spanish poet and dramatist. Produced his first drama at the age of 13. Served as a soldier, but took orders in 1652, after which he wrote only sacred dramas. He wrote some five hundred plays.

Calhoun, John Caldwell. 1783-1850. American statesman. Born in South Carolina; elected to Congress, 1810; secretary of war, 1817; vice-president, 1825-1832, resigning to enter the Senate; secretary of state, 1844; returned to the Senate, 1845. Calhoun was an avowed champion of slavery and state's rights.

Caligula, Caius Cæsar. 12-41. Emperor of Rome, noted for cruelty and sensuality. Built a temple to himself. Assassinated.

Calonne, Charles Alexandre de. 1734-1802. Fr. statesman.

Calvert, Cecilius, second Lord Baltimore.-1676. First proprietor of Maryland, residing in England.

Calvert, George, first Lord Baltimore. 1582?-1632. Father of the preceding. Founder of Maryland.

Calvert, Leonard. 1606?-1647. Brother of Cecilius. First governor of Maryland.

Calvin, John. 1509-1564. French theologian. Established the Presbyterian form of church government. The fundamental principle of his theology is that of predestination to eternal happiness or misery by the absolute decree of God.

Cambaceres, Jean Jacques Regis de. 1757-1824. French statesman.

Cambyses.-522 B.C. King of Persia; conqueror of Egypt.

Cameron, Kichard.-1680. Scottish Covenanter.

Cameron, Simon. 1799-1889. American politician; senator from Pennsylvania, secretary of war and minister to Russia.

Camillus, Marcus Furius.-364 B.C. Roman general and dictator.

Camoens, Luis. 1517-1579. Portuguese poet. Served in Morocco as a volunteer, and, failing to procure advancement at court on his return, went to India. There he was banished, on account of his satire, Follies in India, from Goa to Macao, where he wrote the Lusiad, the greatest of his works. Recalled to Goa, he suffered shipwreck, and saved the Lusiad by holding it above the waves as he swam ashore. He died in great poverty.

Campanini, Italo. Italian tenor singer.

Campbell, Alexander. 1788–1866. Irish founder of the denomination of "Christians," or "Disciples of Christ."

Campbell, Colin, Lord Clyde. 1792-1863. British General.
 Campbell, John, Lord. 1779-1861. Lord chancellor of England. The Lives of the Lord Chancellors.

Campbell, Thomas. 1777-1844. Scottish poet. Son of a Glasgow merchant. Published Pleasures of Hope in 1799. Among his other poems are The Exile of Erin, Lochiel's Warning, Gertrude of Wyoming and O'Connor's Child. Also wrote biographies of Petrarch, Mrs. Siddons and Frederick the Great.

Canby, Edward Richard Sprigg. 1819–1873. American general.

Canisius, Petrus. (De Hondt.) 1521-1597. Dutch Jesuit theologian.

Canning, George. 1770-1827. English statesman and orator.
 Canova, Antonio. 1757-1822. Italian sculptor. Venus Victorious: Venus and Adonis; Theseus and the Minotaur; Dadalus and Icarus; The Graces. He executed statues of Washington and Napoleon.

Canrobert, François Certain. 1809-.... French marshal and senator.

Cantacuzenus, John.-1411? Greek emperor and historian.

Canute II. 990-1035. King of Denmark; conqueror of England.

Capet, Hugh. 940?-996. Founder of the Capetian dynasty. Caracalla. 188-217. Emperor of Rome, noted for cruelty. Caracci, Agostino. 1558-1602. Italian painter and engraver. Caracci, Annibal. 1560-1609. Italian painter.

Caracci, Ludovico. 1555-1619. Italian painter.

Caravaggio, Michel Angelo da. 1569-1609. Italian painter.
Cardigan, James Thomas Brudenell, Earl of. 1797-1868.
English general.

Carducci, Bartolommeo. 1560-1610. Florentine painter.

Carey, Henry Charles. '1793-1879. Am. political economist. Carlisle, John G. 1829-.... American statesman.

Carlos, Don, Duke of Madrid. (Carlos Maria de los Dolores Juan Isidoro Josef Francesco Quirino Antonio Miguel Gabriel Rafael.) 1848-.... Claimant to the Spanish throng. Nephew of Charles VI

Carlyle, Thomas. 1795-1881. Scottish essayist, biographer and historian. The son of a small farmer; educated at the University of Edinburgh. Taught mathematics for some time, but resolved to devote himself to literary pursuits and became thoroughly familiar with the literature of Germany. Married Jane Welch in 1827, and settled on a farm. Besides his best known works and several translations, he produced biographies of Schiller, Frederick the Great and John St.-ling. Sartor Resartus first appeared in Fraser's Magazine in 1833; From: Prodution, 1837; Chartism, 1839; Heroes and Hero Worship, 1840; Latter-Day Pamphlets and Cromwell's Letters and Speeches, 1845.

Carnarvon, Henry H. M. Herbert, third Earl of. 1831-.... English statesman.

Carnot, Lazar Nicolas Marguerite. 1753-1823. French strategist and military administrator.

Carroll, Charles (of Carrollton). 1737-1832. Am. patriot.

Cartier, Jacques. 1494-1555? French navigator.
Cartwright, Edmund. 1743-1823. English inventor.

Cary, Alice. 1822-1870. American poetess.

Cary, Henry Francis. 1722-1884. Eng. translator of Dante.
Casas, Bartolomé de las. 1474-1566. Spanish missionary and historian. History of the Indians.

Casaubon, Isaac. 1559-1614. Swiss scholar and critic.

Casimir I. The Pacific.-1058. King of Poland. II., 1137-1194. III., The Great,-1370. IV., 1425-1492. V., 1609-1672.

Cass, Lewis. 1782-1866. Am. statesman and diplomatist.

Castelar y Rissol, Emilio. 1832-.... Spanish republican orator and statesman.

Castlereagh, Robert Stewart, Viscount. 1769–1822. Second marquis of Londonderry. British statesman, prominent in suppressing the Irish rebellion of 1798, and to him is attributed the union of Ireland with Great Britain. Opposed Bonaparte Committed suicide.

Castro, Joao de. 1500-1548. Port. general and navigator.

Catherine, Saint. 1347-1380. Italian nun at Siena. Mediator between the rival popes in the great schism.

Catherine I. 1682-1727. Empress of Russia; succeeded to the throne on the death of her husband, Peter the Great. 11., 1729-1796; notoriously immoral.

Catherine of Aragon. 1486-1536. Queen of Henry VIII. of England; divorced.

Catherine de, Medici. 1510-1589. Queen of Henry II. of France; opponent of the Huguenots.

Catiline, Lucius Sergius. 108?-62 B.C. Roman conspirator.

Cato, Dionysius. Fl. 3d century. Latin poet.

Cato, Marcus Portius. The Elder. 234-149 B.C. Roman statesman and author.

Cato, Marcus Portius. The Younger. 95-46 B.C. Opponent of Cæsar; famed for purity and nobility. Committed suicide.

Catullus, Caius Vallerius. 77?-45? B.C. Latin poet.

Caulaincourt, Armand A. L. de. 1773-1827. Fr. diplomat.
 Cavaignac, Louis Eugène. 1802-1857. French general and statesman. Put down the insurrection of 1848.

Cavour, Camillo Benso di. 1818-1861. First prime minister of the kingdom of Italy.

Caxton, William. 1412?-1492. English scholar and merchant. Introduced printing into England.

Cecil, William, Lord Burleigh. 1520-1598. Lord treasurer of England.

Cecilia, Saint. Fl. 2d century. Roman martyr; patroness of music.

Cenci, Beatrice. The beautiful Parricide. 1583?-1599.
Roman lady, famous for her beauty and tragic fate.

Cervantes Saavedra, Miguel de. 1547-1616. Spanish novelist. Don Quixote.

Cesnola, Louis Palma di. 1832-.... Born in Italy; colonel in U. S. army during the civil war; appointed 1865 consul to Cyprus, and became famous for his excavations in that island.

Chalmers, Thomas. 1780-1847. Scottish divine; founder of the "Free Church." Astronomy in its Connection with Religion.

Chambers, William. 1800-1883. Scot. editor and publisher. Chambord, Henri Charles Ferdinand Marie Dieudonné d'Artois,

Comte. 1820-1883. Head of elder branch of the Bourbons.

Chamisso, Adelbert von. 1781-1838. German traveller.
 Champollion, Jean François. 1791-1832. French Egyptologist. Hieroglyphic Dictionary.

Changarnier, Nicolas A. T. 1793-1877. French general.

Channing, William Ellery. 1780-1842. American divine and author; opponent of slavery.

Chantrey, Sir Francis. 1782-1841. English sculptor.

Chapin, Edwin Hubbell. 1814-1881. American divine,

Charlemagne. Charles the Great, or Charles I. 742-814. Emperor of Germany and King of France. Crowned emperor of the West, with the title of Cæsar Augustus, by Pope Leo III., 8-20. The most powerful and enlightened monarch of his time. His empire extended from the Elbe to the Ebro, and from Calabria to Hungary. Founder of the Carlovingian dynasty.

Charles II. The Bald. (Charles II. of France.) 823-877. Emperor of Germany. Invaded Italy and was crowned Emperor. III., The Fat, 832?-888. IV., 1316-1378. Emperor of Germany and King of Bohemia. V., 1500-1558. Emperor of Germany. King of Spain as Charles I. Ascended the Spanish throne in 1516 and became Emperor of Germany in 1510. In 1521 summoned the Diet of Worms to check the progress of Luther's doctrines. In 1527, warring with Francis I. of France, and Pope Clement VII., Rome was sacked and the pope made prisoner. Convened the Diet of Augsburg to suppress the Reformation, but, the Protestants having united, liberal terms were granted them. In 1535, defeated Barbarossa and captured Tunis, liberating thousands of Christian slaves. Defeated in 1552 by the Protestant forces under Maurice of Saxony, he signed the treaty of Passau, establishing the Protestant church on a firm basis. Three years later he retired to the monastery of St. Yuste. VI., 1685-1740. VII. (Karl Albrecht), 1607-1745.

Charles II. The Bald. (Charles II. of Germany.) 823-877. King of France. IV., The Fair. 11294-328. V., The Wise, 1337-1380. VI., The Mad or The Beloved, 1368-1422. Dec.me insane in 1392. VII., The Victorious, 1403-1461; expelled the English. IX., 1550-1574. X., 1757-1836.

Charles I. Charles Stuart. 1600-1649. King of England. Executed after ineffectually attempting to subdue his rebellious subjects. II., 1630-1685; witty, but careless and voluptuous, the Habeas Corpus act was passed during his reign.

Charles I. (Charles V. of Germany.) 1500-1558. King of Spain. II., 1661-1700. III., 1716-1788. IV., 1748-1819.

Charles IX. 1550-1611. King of Sweden. X. (Gustavus), 1622-1660. XII., 1682-1718; ascended the throne in 1697. A league being formed against him by Russia, Denmark and Poland, in 1700, he besieged Copenhagen, forced Denmark to make peace, and beat the Russians. He then invaded Poland, compelling King Augustus to resign. Invading Russia, he was badly defeated at Pultowa. He fled to Turkey, but soon returned. Marching into Norway, he was killed at the siege of Frederickshall. XIII., 1748-1818. XIV. (Bernadotte), 1714-1844. XV., 1826-1872. King of Sweden and Norway.

Charles Edward Stuart. The Young Pretender. 1720-1788. English prince

Charles the Bold. 1433-1477. Duke of Burgundy. While still Count of Charolais and before succeeding to his dukedom, he led a successful revolt of the nobles against Louis XI. of France. Aspiring to enlarge his dominions, he invaded Lorraine, but was defeated by Duke René's Swiss allies and killed in battle.

Charles Martel. 694?-741. King of the Franks.

Charron, Pierre. 1531-1603. French moralist.

Chartier, Alain. 1385-1455. French poet.

Chase, Salmon Portland. 1808-1873. American statesman and jurist. Secretary of the Treasury; chief justice.

Chateaubriand, François Auguste de, Viscount. 1768-1848. French author. Genius of Christianity.

Chatham, William Pitt, Earl of. The Great Commoner. 1708-1778. English statesman and orator. Opposed taxation of the American colonies.

Chatterton, Thomas. 1752-1770. English literary impostor.

Chaucer, Geoffrey. 1340?-1400. English poet, styled the "Father of English poetry." Canterbury Tales.
Cheever, George Barrelle. 1807-... American divine.

Cheke, Sir John. 1514-1557. English scholar. Chenier, Andre Marie de. 1762-1794. French poet; executed. The Young Captive, written just before his death, is called by Lamartine "the most melodious sigh that ever issued from a dungeon.

Cherbuliez, Victor. 1832-.... French novelist.

Cherubini, Maria Luigi C. Z. S. 1760-1842. It. composer. Chesterfield, Philip Dormer Stanhope, Earl of. 1694-1773. English orator and wit, distinguished especially as a man of fashion.

Chevalier, Michael. 1806-1879. Fr. political economist. Chiabrera, Gabriello. 1552-1637. Italian lyric poet.

Child, Lydia Maria. 1802-1880. American philanthropist. Chillingworth, William. 1602-1644. English theologian.

The Religion of Protestants a Safe Way to Salvation. Chitty, Joseph. 1776-1841. English jurist and writer.

Choate, Rufus. 1799-1859. American lawyer and statesman, noted for his eloquence. Senator from Massachusetts.

Choiseul, Etienne François de. 1719-1785. Fr. statesman. Choris, Louis. 1795-1828. Russian painter and traveller.

Christian I. 1425-1481. King of Denmark. II., 1481-1556. Called "The Hero of the North." III., 1503-1559. IV., 1577-1648. V., 1646-1699. VI., 1699-1746. VII., 1749-1808. VIII., 1786-1848. IX., 1818-....

Christina. 1629-1689. Queen of Sweden. Daughter of Gustavus Adolphus. Learned and eccentric. Abdicated 1654.

Chrysippus. 280-207 B.C. Greek Stoic philosopher. Chrysostom, John, Saint. 350?-407. Greek father of the church.

Church, Frederick Edwin. 1826-.... American painter. Churchill, Charles. 1731-1764. English poet and satirist.

Cialdini, Enrico. 1811-.... Italian general.

Cibber, Colley. 1671-1757. English actor and dramatist.

Cicero, Marcus Tullius. 106-43 B.C. Roman author, statesman and orator. While consul, suppressed the conspiracy of Catiline. Exiled 58 B.C., but recalled and enthusiastically received. Was an adherent of Pompey, but enjoyed the favor of Julius Cæsar. Killed by the soldiers of Antony. Cicero is regarded as an orator second only to Demosthenes

Cid Campeador. (Ruy Diaz de Bivar.) 1040?-1099. Castilian hero.

Cimabue, Giovanni. 1140-1300? Italian painter.

Cimon. 500-499 B.C. Athenian general and statesman.

Cincinnatus, Lucius Quintus. 520-438 B.C. Roman patriot and Dictator. Elected consul while cultivating a farm, having lost his property. Conquered the Æqui. Twice chosen dictator, and at the expiration of each term of office he returned to the plow.

Cinna, Lucius Cornelius. ...-84 B.C. Roman demagogue. Cinq-Mars, Henri C. de Ruze, Marquis de. 1620-1642.

French conspirator.

Civilis, Claudius. Fl. 70. Chief of the Batavi.

Clarendon, Edward Hyde, Earl of. 1608-1674. English historian and statesman.

Clarke, Adam. 1762-1832. Irish Methodist Bible commentator.

Clarke, John S. 1835-... American comedian.

Clarke, Mary Cowden. 1809-.... English writer. Concordance of Shakspere.

Claude Lorraine. 1609-1682. French painter.

Claudian (Claudius Claudianus). 365?—408? Latin poet. Claudius (Tiberius Claudius Drusus Nero). B.C. 10-54 A.D. Roman emperor; invaded Britain.

Claudius, Marcus Aurelius. 214-270. Roman emperor.

Clay, Henry. 1777-1852. American statesman and orator. Born in Virginia; removed to Kentucky 1797; practiced law; elected to Kentucky Legislature in 1804, and two years later chosen to fill a short term in the U.S. Senate; re-elected to the Senate 1809, and to the House of Representatives 1811, of which body he was made speaker; re-elected speaker 1813; signed treaty of Ghent, 1815; reelected speaker four times; advocated Missouri Compromise. Not one of his decisions as speaker was reversed. In 1824, he was one of four candidates for the presidency, receiving thirty-seven electoral votes. When the election devolved on the House of Representatives, his influence decided the contest in favor of Jackson. A bloodless duel between Clay and Randolph, in 1826, was the result of charges against Clay growing out of this election. Re-elected to the Senate in 1831 for six years; and in 1832 was defeated for the presidency as the candidate of the anti-Jackson party. Again elected to the Senate in 1836, but resigned in 1842. Whig candidate for the presidency in 1844. Reelected Senator 1848. Clay is generally given credit for the compromise of 1850, believed to have postponed for ten years the civil war.

Clemens, Samuel Langhorne. Mark Twain. 1835-....

American humorist. Learned the printer's trade, and became a pilot on the Mississippi. The Innocents Abroad: The Jumping Frog: Roughing It: The Gilded Age: The Tramp Abroad.

Clement I. 30?-100. Pope. IV., ...-628. V., 1264?-1314. VII. (Giulio de Medici), 1475?-1534. VIII., 1605. XI., 1649-1721. XIV., 1705-1774.

Clement of Alexandria. 150?-220? Father of the church. Cleon.-422 B.C. Athenian demagogue and general.

Cleopatra. 69-30 B.C. Queen of Egypt, remarkable for beauty and accomplishments.

Cleveland, Grover. 1837-.... American statesman. Born at Caldwell, N. J., the son of a Presbyterian minister, who removed to Fayetteville, N. Y., in 1840. First worked in a country store, secured an education and became a teacher in the N. Y. Blind Asylum. Studied law in Buffalo; admitted to the bar in 1863, and became assistant district attorney; afterwards sheriff. Mayor of Buffalo, 1881, and then elected Governor of New York by 192,000 majority. Elected President in 1884.

Clinton, De Witt. 1769-1828. American statesman; promoter of the Eric Canal. Governor of New York, United States Senator, and Federal candidate for the Presidency.

Clinton, George. 1739-1812. Vice-president of the U. S.
 Clinton, Sir Henry. 1738-1795. English general in America.
 Clive, Robert, Lord. 1725-1774. English general and founder of the British empire in India. Committed suicide.

Clodius, Publius. 52 B.C. Roman tribune and demagogue.
Clootz, Jean Baptiste, Baron. Anacharsis Clootz. 1753-1794.
Prussian traveller and French revolutionist. Guillotined.

Clough, Arthur Hugh. 1820-1861. English poet.

Clovis (or Chlodwig). 465-511. King of the Franks; conqueror of Gaul.

Cobbett, William. 1762-1835. English political writer.

Cobden, Richard. 1804-1865. English statesman and economist. Leading orator of the Anti-Corn-Law League.

Coke (or Cook), Sir Edward. 1552-1633. English jurist.

Colbert, Jean Baptiste. 1619-1683. French statesman.

Cole, Thomas. 1801-1848. English landscape painter.

Colenso, John William. 1814-.... Eng. theologian. Bishop of Natal. The Pentateuch and Book of Joshua Critically Examined.
Coleridge, Hartley. 1796-1849. Son of S. T. C. Eng. poet.

Coleridge, Samuel Taylor. 1772–1834. English poet and critic. Educated at Cambridge. Intimate friend of Robert Southey, with whom he intended to emigrate to America for the purpose of founding a democratic community. In company with Wordsworth he studied German literature and wrote the Lyrical Ballads. In 1807 he took to wandering habits, and left his family dependent on his brother-in-law, Southey. His health failing about 1825, he became addicted to the opium habit, but succeeded in overcoming it. The Ancient Mariner.

Colfax, Schuyler. 1823-1885. Am. politician; vice-president.
Coligny, Gaspard de. 1517-1572. French admiral. Leader of the Huguenots, and killed in the massacre of St. Bartholomew.

Collier, Jeremy. 1650-1726. English theologian.

Collingwood, Cuthbert, Lord. 1750-1810. English lord high admiral; second in command at the battle of Trafalgar.

Collins, Anthony. 1676–1729. Eng. author and free-thinker. Collins, William. 1720–1756. Eng. poet. The Passions.

Collins, William Wilkie. 1824-... English novelist.

After Dark; Armadale: The Woman in White: Man and Wife.

Colman, George. The Elder. 1733-1794. Eng. dramatist.

Colman, George. The Younger. 1762-1836. English dramatist. John Bull.

Colonna, Vittoria. 1490-1547. Italian poet.

Colt, Samuel. 1814-1862. Am. inventor of the revolving pistol. Columba, Saint. 521-597. The apostle of Caledonia.

Columbus, Christopher. 1436-1506. Genoese navigator and discoverer of America. Became a sailor at 14. Studied mathematics at the University of Pavia. Removed to Lisbon at the age of thirty, and was employed in several expeditions to the west coast of Africa. Columbus meditated reaching India by a western route. He unsuccessfully solicited the aid of John II. of Portugal, but finally Ferdinand and Isabella of Spain furnished him two small vessels, and another was added by the efforts of his friends. With these ships and one hundred and twenty men he set sail from Palos, August 3, 1402, and after a long voyage, during which he was threatened with death by his mutinous crew, he discovered the island of San Salvador, October 12 of same year. Supposing that he had reached India, he called the natives Indians. After visiting Cuba and Hayti, he returned to Spain, where he was received triumphantly. In 1493 he again sailed across the Atlantic, this time with seventeen ships, and discovered Jamaica and Porto Rico In 1498 he made his third voyage, with six vessels, discovering the mainland at the mouth of the Orinoco. In 1499, complaints having been made to the court of the conduct of Columbus at Hispaniola, he was carried to Spain in chains by Francisco de Bobadilla, whose action was, however, repudiated by the king and queen Columbus' last voyage to America was made in 1502, to Honduras. He died neglected.

Combe, George. 1788–1858. Eng. educator and phrenologist. Comines, Philippe de. 1445–1509. Fr. statesman and historian. Commodus, Antoninus. 161–192. Emperor of Rome.

Comonfort, Ignacio. 1810?-1863. President of Mexico.

Comte, Auguste. 1798–1857. French philosopher. Positivism.

Conde, Louis II., Prince de. The Great Condé. 1621–1686.
French general. Victorious over the Spaniards at Rocroi, 1643, and over the Germans at Nordlingen, 1645. Again defeated the Spanish at Lens in 1648, almost annihilating their infantry, previously regarded invincible. Seeking revenge for having been imprisoned by the orders of Mazarin or the queen, he warred against the government, and next entered the service of Spain. Returned to France in 1659, and defeated William of Orange in 1674.

Condillac, Etienne Bonnot de. 1715-1780. French metaphysician.

Condorcet, Marie Jean A. N. C. de. 1743-1794. French mathematician and philosopher. Imprisoned in 1794, he committed suicide by poison.

sublime.

Confucius, or Kong-foo-tse. 551-478 B.C. Chinese philosopher. The son of a soldier, he was raised to the rank of mandarina to 19; superintendent of public markets and public fields. Commenced public teaching at 22. Became, is 499 B.C., minister of crime, and soon after retired from public life, devoting his time to study, travel, and the dissemination of his doctrines. The philosophy of Confucius relates to the present life only, the useful and the practical forming the chief objects. He placed great importance upon outward forms of politeness, being the first to enunciate, in substance, the Golden Rule. His object was to promote human happiness. His influence upon posterity has been truly enormous, his teachings affecting two-thirds of humanity for twenty-three centudes.

Congreve, Sir William. 1772-1828. English engineer. (Congreve rocket).

Congreve, William. 1670-1729. English dramatist and wit.
Conkling, Roscoe. 1829-.... American statesman, lawyer and orator. U. S. senator from New York.

Conrad I.-918. Emperor of Germany. II.,-1039. III., 1093-1153. IV., 1228-1254. V., 1252-1268.

Conscience, Hendrik. 1812-1883. Flemish novelist.

Constans I. 320?-350. Emperor of Rome. II., 630-668. Constantine I. The Great. 272-377. Emperor of Rome. Embraced Christianity, and trat. ferred his court from Rome to Byzanium, thenceforth called Constantinople. II., 312-340. III. (emperor of the East), 612-641. IV.,-635. V., 719-775. VI., 771-797. VII., 905-959; poisoned by his son, Romanus II. VIII.,-946. IX., 961-1028. X.,-1054. XII.,-1067. XIII.,-1071. XIII. (Palaeologus), 1394-1543; killed while defending Constantinople against the victorious Mahomet II. Last emperor of the East.

Constantius I. 250-306. Emperor of Rome. II. (emperor of the West), 317-361. III.,-421.

Conti, François Louis de, Prince. 1664-1709. Fr. general. Cook, Eliza. 1817-... English poetess.

Cook, James, Captain. 1728-1779. English discoverer, and circumnavigator of the globe. Killed by natives in the Sandwich Islands.

Cooke, George Frederick. 1755-1812. English actor.
Cooper, Sir Astley Paston. 1768-1841. English physician.

Cooper, James Fenimore. 1779-1851. American novelist. Having studied at Yale College, he entered the navy in 1806 as mid-shipman, but left the service in 1811. His first novel, Precaution, appeared in 1809, but was not a success. His next, The Spy, was enthusiastically received. His sea-stories are considered the best of his numerous productions.

Cope, Edward Drinker. 1840-.... American naturalist.

Copernicus (Copernik or Kopernik), Nicholas. 1473-1543.

German astronomer. Disproved the Ptolemaic theory. In his great work, The Revolution of the Celestial Ords, the first copy of which was handed to him on the day of his death, he demonstrated that the sun is the centre of the universe.

Copley, John Singleton. 1737-1815. English painter, born in Massachusetts.

Corday, Charlotte. (Mariane Charlotte Corday d'Armans). 1768-1793. French heroine; assassinated Marat.

Coriolanus, Cneius Marcius. Fl. 490 B.C. Roman hero. Corneille, Pierre. 1606-1684. Founder of the Fr. drama.

Cornelius, Peter von. 1787-1867. German painter. Cornell, Ezra. 1807-1874. American philanthropist.

Cornwallis, Charles, Earl. 1738-1805. British general.

Corot, Jean Baptiste Camille. 1796-1875. French painter.

Correggio, Antonio Allegri da. 1494-1534. Italian painter. Extremely skilful in foreshortening and in the use of chiaroscuro. The Assumption of the Virgin; Ecce Homo; Penitent Magdalen; St. Jerome; La Vierge au Panier. Cortez, Hernando. 1485-1547. Spanish conqueror of Mexico. Corvinus, Matthias. 1443-1490. King of Hungary. Corwin, Thomas. 1794-1865. American statesman. Cotton, John. 1585-1652. Puritan minister in Boston. Cottin, Sophie Ristaud. 1773-1897. French novelist. Cousin, Victor. 1792-1867. French philosopher.

Cowley, Abraham. 1618–1667. Eng. poet. Pindaric Odes.

Cowper, William. 1731–1800. English poet. Studled at
Westminster school, and became a fine classical scholar. Admitted to
the bar, but never practiced, his morbid sensitiveness, nervousness and
diffidence making him unable to occupy a conspicuous position. Became
temporarily deranged, and made several attempts at suicide. In 1784 he
commenced his translation of Homer. The Task was published in 1785.
Cowper's letters are considered among the best in the language. His
poetry is by turns playful and pathetic, tender and sarcastic—sometimes

Cox, Samuel Sullivan. 1824-... American statesman. Coxe, Arthur Cleveland. 1818-... Am. bishop and poet. Cozzens, Frederick Swartwout. 1818-1869. Am. author.

Crabb, George. 1778–1854. Eng. philologist. Synonyms.

Crabbe, George. 1754–1832. English poet. Studied surgery, but abandoned that profession. Was befriended by Edmund Burke, and published The Library in 1781. Ordained a minister of the Church of England in 1782. The Village, his best work, was produced in 1783.

Craik, Dinah Maria (Mulock). 1826-1887. English authoress.

Olive: John Halifax, Gentleman: A Life for a Life: A Woman's
Thoughts about Women.

Cranch, Christopher Pearse. 1813-.... Am. artist and poet.
 Cranmer, Thomas. 1489-1556. English reformer; archbishop of Canterbury. Burned to death.

Crassus, Marcus Licinius. 108?-53 B.C. Roman triumvir; immensely wealthy. Defeated and slain by the Parthians.

Creasy, Sir Edward Shepherd. 1812-1878. English historian. Fifteen Decisive Battles.

Crichton, James. The Admirable Crichton. 1560-1583.
Scottish prodigy. Stabbed by his pupil, a son of the Duke of Mantua.
Crittenden, John Jordon. 1786-1863. American statesman.
Crockett, David. 1786-1836. American backwoodsman.

Crosus. 590-546 B.C. King of Lydia, famous for wealth. Croly, George. 1780-1860. Irish poet and pulpit-orator.

Cromwell, Oliver. 1599–1659. English general; lord protector of England. Elected to Parliament 1628. In 1637 resolved to emigrate with his cousin, John Hampden, but they were detained by an order of council. Re-elected to Parliament 1640. Entered the Parliamentary army in 1642 as captain of cavalry. Rapidly promoted, and led left wing at Marston Moor, 1644. Commanded right wing at Naseby, 1645, and became leader of the Independents. Transferred the custody of the king from Parliament to the army, 1647. Won the battle of Preston, 1648. Signed the death warrant of Charles I., 1649. Made commander-in-chief, 1659, and defeated the Scotch at Dunbar and Charles at Worcester. Dissolved Parliament in 1653, and was in 1654 proclaimed by the army protector of the commonwealth.

Cropsey, Jasper Frank. 1823-... American painter.
Cruden, Alexander. 1700-1770. Scottish bookseller and author. Concordance.

Cruikshank, George. 1792-1878. Eng. humorous artist.

Cumberland, William Augustus, Duke of. 1721-1765. Conqueror at Culloden.

Cunningham, Allan. 1785–1842. Scottish author and critic. Curran, John Philpot. 1750–1817. Irish barrister and orator. Curtis, Benjamin Robbius. 1809–1874. American jurist. Curtis, George William. 1824-... Am. author and editor.
 Cushing, Caleb. 1800–1879. American lawyer, statesman and diplomatist.

Cushman, Charlotte Sanders. 1816–1876. Am. actress.
Custer, George A. 1839–1876. American general, killed by the Sioux.

Cuvier, Georges C. L. F., Baron. 1769-1832. French naturalist.
 Cyprian, Saint. 200?-258. Latin father; bishop of Carthage; martyr.

Cyril, Saint. 315?-386. Bishop of Jerusalem.

Cyril, Saint. 376?-444. Bishop of Alexandria.

Cyrus. The Great, or The Elder.-529 B.C. King of Persia; conquered Babylon.

Cyrus. The Younger.-401 B.C. Hero of Xenophon's Anabasis.

ABOLL, Nathan. 1750-1818. American mathematician.

 Dacier, André. 1651-1722. French scholar and critic.
 Dacier, Anne Lefevre. 1654-1720. Wife of preceding. Translated Homer.

Daendels, Hermann Willem. 1762-1818. Dutch general.
 Daguerre, Louis Jacques Mandé. 1789-1851. French artist; inventor of the daguerreotype.

Dahlberg, Eric. 1625–1703. Swedish general and engineer. Dahlgren, John Adolph. 1809–1870. Am. rear-admiral.

Dallas, Alexander James. 1759–1817. Am. statesman.

Dallas, George Mifflin. 1792-1864. Am. statesman.

Dalton, John. 1766-1844. English chemical philosopher.

Damiani, Peter. 990-1072. Italian ecclesiastic.

Damiens, Robert F. 1714-1757. French fanatic.

Dampier, William. 1652-1712. Eng. explorer and navigator.

Dana Charles A. 1810- Am journalist

Dana, Charles A. 1819-... Am. journalist.

Dana, Francis. 1743-1811. Am. lawyer and statesman.

Dana, Richard Henry. 1787-1879. American poet and writer.

The Buccaneer.

Dana, Richard Henry. 1815-1882. Son of preceding. Am. author and lawyer. Two Years Before the Mast.

Dancer, Daniel. 1716-1794. English miser.

Dandelot, François de Coligny. 1521-1569. French general.
 Dandolo, Enrico. 1105?-1205. Blind doge of Venice; took Constantinople by storm.

Dane, Nathan. 1752-1835. Am. lawyer and statesman.

Daniel. Fl. 6th century B.C. Hebrew prince and prophet.

Daniel, Samuel. 1562-1619. English poet.

Dante Allighieri. 1265-1321. The greatest poet of Italy. Divina Commedia.

Danton, Georges Jacques. 1759-1794. A leader of the French revolution, and head of the "Dantonists." Guillotined.

D'Arblay, Mme. (Frances Burney.) 1752-1840. English novelist. Evelina; Cecilia; Camilla.

Darboy, Georges. 1813-1871. Archbishop of Paris.

Darius I. (Darius Hystaspis.)-435 B.C. King of Persia.
II.,-405 B.C. III. (Codomannus),-330 B.C.; defeated by Alexander.

Darius the Mede. Supposed to be Cyaxares II.

Darley, Felix O. C. 1822-.... American artist.

Darling, Grace. 1815-1842. English heroine.

Darnley, Henry Stuart, Lord. 1545?-1567. Husband of Mary Queen of Scots; assassinated.

Darwin, Charles Robert. 1809–1882. English naturalist and originator of the theory of evolution. In his "Origin of Species by means of Natural Selection," published in 1859, he propounds the theory that all forms of life, animal or vegetable, past or present, have been produced by a series of gradual changes in natural descent. In his "Descent of Man," he infers that "man is descended from a hairy quadruped furnished with a tail and pointed ears, probably arboreal in its habits."

Darwin, Erasmus. 1731-1802. English physician and poet.
 D'Aubigne, Jean Henri Merle. 1794-1872. Swiss historian.
 D'Aubigne, Theodore. 1550-1630. French soldier, poet and historian.

Daudet, Alphonse. 1840-.... French novelist. Jack. Davenport, Edward L. 1816-1877. American actor.

David. 1090-1015 B.C. King of Israel; prophet and poet. David, Saint. 490?-544. Patron of Wales.

David, Jacques Louis. 1748-1825. French historical painter. David, Pierre J. 1789-1856. French sculptor.

Daviess, Joseph Hamilton. Jo Daviess. 1787-1854. American statesman.

Da Vinci, Leonardo. See Vinci.

Davis, Henry Winter. 1817-1865. American politician.

Davis, Jefferson. 1808-1889. American statesman and president of the Confederacy. Born in Kentucky; graduate of West Point; served in the Black Hawk war and Mexican war; elected to U. S. Senate from Mississippi in 1847; secretary of war 1853-7; reelected senator in 1857; inaugurated provisional president of the Confederate States in 1861, and elected for six years in 1862. Imprisoned in Fortress Monroe for two years after the fall of Richmond. History of the Civil War.

Davoust (or Davout), Louis Nicholas, Duke of Auerstadt and Prince of Eckmühl. 1770-1823. Marshal of France.

Davy, Sir Humphrey. 1778-1829. English chemist. Demonstrated that the fixed alkalies are metallic oxides. Inventor of the safety lamp. Researches Chemical and Philosophical.

Dayton, William Lewis. 1807-1864. American statesman.
 Dearborn, Henry. 1751-1829. Am. general and statesman.
 Decatur, Stephen. 1779-1820. American naval commander.
 Defeated the Algerines. Killed in a duel.

De Foe (or Defoe), Daniel. 1661-1731. English novelist. Son of James Foe, a butcher, he assumed the prefix "de." Took part in the insurrection against James II. Imprisoned and pilloried in 1702 for publishing The Shortest Way with Dissenters, an ironical pamphlet. His works are over two hundred in number, and show great versatility and originality. Robinson Crusoe: The True-born Englishman: The History of the Union: Memoirs of a Cavalier; Religious Courtship.

De Kalb, John, Baron. 1732-1780. German general; accompanied Lafayette to America in 1777, and served under Washington. Killed at the battle of Camden.

De Haas, Maurice F. H. 1830?-.... Dutch marine painter, Delacroix, Ferdinand V. E. 1799-1863. French painter.

De la Rame, Louisa. Ouida. 1840?-.... Eng. novelist. Delaroche, Paul. 1797-1856. French painter.

Delaware, Thomas West, Lord.-1618. Gov. of Virginia. Delmas, Antoine Guillaume. 1768-1813. French general.

Delorme, Marion. 1612-1650. French beauty and courtesan. Del Sarto, Andrea Vannuchi. 1488-1530. French painter.

Demetrius Phalereus. 345?-284? B.C. Attic orator and philosopher.

Demetrius Poliorcetes. 335?-284? B.C. Macedonian general.

Democritus. The Laughing Philosopher. 460-361 B.C. Greek philosopher.

Demosthenes. 385?-322 B.C. Athenian orator. Conquered an impediment in his speech, and by perseverance and determination became the greatest of orators. Opposed Philip of Macedon, against whom he delivered his Philippics. It being proposed to reward his public services with a golden crown, a bitter contest ensued with his rival Æschines, in which Demosthenes, however, was triumphant. This led to the oration On the Crown, considered his greatest achievement. Condemned to death by Antipater, he committed suicide by poison. He left sixty orations.

Denis, Saint. 272. Apostle and patron of France.

De Quincey, Thomas. 1785–1859. Eng. author. The son of a wealthy merchant. Contracted the opium habit while pursuing his studies at Oxford—a habit which he overcame, in 1820, after a severe and prolonged struggle. His Confessions of an Opium-Eater, written as an autobiography, and published in 1821, created a great sensation. De Quincey was a brilliant writer, and left numerous works.

Derby, Edward Geoffrey Smith Stanley, Earl of. 1799–1869. English statesman and orator. Translator of Homer's *Iliad*.

Derby, Edward Henry Smith Stanley, Earl of. 1826-...

Descartes, René. 1596-1650. Fr. philosopher and mathematician. Discourse on the Method of Reasoning Well, and of Investigating Scientific Truth; Meditationes de Prima Philosophia; Principles of Philosophy. "I think, therefore I am."

Desfontaines, René Louiche. 1752-1833. French botanist.

De Smet, Peter John. 1801-1873. Jesuit missionary to the

Des Moulins, Camille. 1762–1794. Fr. Jacobin; guillotined.

De Soto, Ferdinand. 1460–1542. Spanish explorer; discovered the Mississippi river.

Dessalines, Jean Jacques, 1760-1806. Negro emperor of Havii.

De Vigny, Alfred, Count. 1799-1863. Fr. novelist and poet.

De Witt, Jan. 1625-1672. Dutch statesman. Diaz, Porfirio. 1830-.... President of Mexico.

Dibdin, Charles. 1745-1814. English song writer

Dick, Thomas. 1772-1857. Scottish author.

Dickens, Charles. 1812-1870. English novelist. After studying at college, he was articled to an attorney, but found the study of law uncongenial, and became a reporter for the press. Sketches by Boz appeared in the London Morning Chronicle in 1836. Pickwick Papers: Oliver Twist: Dombey & Son: Bleak House: Hard Times: Nicholas Nickleby: David Copperfield: A Tale of Two Cities: Great Expectations, etc.

Dickinson, Anna Elizabeth. 1842-... Am. lecturer.

Diderot, Denis. 1712-1784. Fr. philosopher and novelist.

Dilke, Sir Charles Wentworth. 1843-... English statesman, editor and author. Greater Britain.

Diocletian. 284-305. Roman emperor.

Diogenes. Died 323 B.C. Greek Cynic philosopher. Lived in a tub, affecting great contempt for the comforts of life.

Dionysius. The Elder. 430?-367 B.C. Tyrant of Syracuse. Dionysius. The Younger. 398-340? Tyrant of Syracuse. Dionysius of Halicarnassus. 70?-7? B.C. Greek historian.

Disraeli, Benjamin. See Beaconsfield.

Disraeli, Isaac. 1766-1848. Father of preceding. English litterateur; born of a Jewish family. Curiosities of Literature.

Dix, John Adams. 1798–1879. Am. general and statesman.
 Dixon, William Hepworth. 1821–1879. English traveller and historian.

Dodge, Mary Abigail. Gail Hamilton. 1838?-.... American authoress.

Dodsley, Robert. 1709-1764. English author and bookseller.
For some time employed as a footman. The Footman's Miscellany.

Doellinger, John Joseph Ignatius. 1799-... German theologian and historian; leader of the "Old Catholic" movement.

Domenichino. (Zampieri). 1581-1641. Italian painter.
 Dominic, Saint. 1170-1221. Spanish preacher, and founder of the order of Dominicans

Domitian. 51?-96. Rom. emperor. Cruel and depraved.

Donatus. Fl. 300. Founder of the Donatists.

Donizetti, Gaetano. 1798-1848. Italian composer. Lucia di Lammermoor: Lucresia Borgia.

Donnelly, Ignatius. 1832.... Am. statesman and author. Dore, Paul Gustave. 1832-1883. French artist.

Doria, Andrea. 1468-1560. Genoese patriot and commander.

Dorr, Thomas Wilson. 1805–1854. American politician.

Dorset, Charles Sackville, Earl of. 1637–1706. English poet and wit.

Dorset, Thomas Sackville, Earl of. 1536-1608. English poet and statesman.

Dorsey, John Syng. 1783-1818. American surgeon.

Douglas, Archibald Bell-the-Cat.-1514? "The great earl of Augus." Lord chancellor.

Douglas, James, Earl of. ...-1330. Scottish patriot.

Douglas, Stephen Arnold. The Little Giant. 1817?-1861.

American statesman. Native of Vermont, admitted to the bar in New York; removed to Illinois and gained destinction as an orator. Judge of Illinois Supreme Court 1841, elected to Congress 1843; senator 1847. Supported the compromise measures of Henry Clay, and advocated the doctrine known as "squatter sovereignty" Re-elected to the Senate 1853, and reported the bill repealing the Missouri compromise. Candidate for the Democratic nomination for the presidency in 1856. Defeated Lincoln for the U. S. senate in 1858, they canvassing the state together. Candidate of one wing of the Democratic party for president in 1860. Supported the Union party in 1861.

Douglass, Frederick. 1817?—... Am. orator; formerly a slave; native of Maryland His father was a white man and his mother a negro slave. Sold to a shipbuilder in 1832, but escaped to Massachusetts and assumed the name of Douglass. Exhibiting rare powers as an orator, he was aided by Wm. L. Garrison and others, and employed, in 1841, by the American Anti-Slavery Society.

Dow, Lorenzo. 1777-1834. American preacher.

Downing, Andrew J. 1815–1852. Am. landscape gardener. Draco (or Dracon). Fl. 624 B.C. Athenian lawgiver.

Drake, Sir Francis. 1540–1595. English naval hero; first English circumnavigator of the globe, captured or destroyed one hundred vessels in the port of Cadiz in 1587, and contributed in 1588 to the defeat of the Spanish Armada.

Drake, Joseph Rodman. 1795-1820. American poet.

Draper, John William. 1811-1882. American scientist.

Drayton, Michael. 1563-1631. English poet.

Dreyse, Johann Nikolaus von. 1787-1867. Prussian inventor of the needle-gun.

Drusus, Claudius Nero. 38-9 D.C. Roman general.

Dryden, John. 1631-1700. English poet, critic and dramatist. Educated at Cambridge. Wrote some spirited heroic stanzas in memory of Cromwell. After the accession of Charles II., he became a staunch royalist. His first drama, The Wild Gallant, was published in 1662; Annus Mirabilis and The Indian Emperor, 1667. Appointed poet-laureate in 1668. He next wrote his Essay on Dramatic Poetry and several comedies and tragedies. Absalom and Achitophel, 1681. Became a Roman Catholic in 1686 and wrote The Ilind and Panther, a poetical allegory. His ode on Alexander's Feast, considered the finest English lyric, appeared in 1696, after he had completed his translation of Virgil. Lord Macaulay calls Dryden "an incomparable reasoner in verse."

Du Chaillu, Paul Belloni. 1835-... French traveller.

Dudevant, Mme. Amantine Lucille Aurore (néc Dupin).

George Sand. 1804-1876. French novelist. Married at the age of 18 to a retired army officer, she separated from him ten years later. She was at one time a zealous Catholic, but later adopted most liberal views, adopting man's attire and denouncing the marriage system. She edited a democratic paper during the revolution of 1842. She has left numerous novels and several dramas.

Dudley, Benjamin Winslow. 1785-1870. Am. physician.
 Dudley, Charles Edward. 1780-1841. American senator.
 Dufaure, Jules Armand Stanislas. 1798-... Fr. statesman.
 Dufferin, Frederick Temple Hamilton Blackwood, Earl of. 1826-... English statesman. Governor-general of Canada.

Dumas, Alexandre. 1803-1870. French novelist.
 Dumas, Alexandre. 1824-.... Son of above. Fr. novelist.
 Dumouriez, Charles François. 1739-1823. French general.
 Duncan I.-1040. Scottish king. Killed by Macbeth.
 Dundonald, Thomas Cochrance, Earl of. 1775-1860. British admiral.

Dunglison, Robley. 1798–1869. American physician. Medieal Dictionary.

Dunois, Jean de. Bastard of Orleans. 1402-1468. French national hero. Natural son of the Duke of Orleans. Defeated the English at Montargis in 1427, and assisted at the siege of Orleans in 1429. Expelled the English from Normandy and Guienne, and was created Count d'Orleans.

Duns Scotus. The Subtle Doctor. 1265?-1308. Scottish theologian.

Dunstan, Saint. 925-988. English prelate.

Dupanloup, Felix Antoine Filibert. 1802–1878. Fr. prelate. Dupleix, Joseph, Marquis. 1695–1763. Fr. governor in India. Dupont, Samuel Francis. 1803–1865. Am. rear-admiral.

Duquesne, Abraham. 1610–1688. Fr. naval commander. Durer, Albrecht. 1471–1528. German painter and engraver.

Durer, Albrecht. 1471-1528. German painter and engraver.

Crucifixion; Adoration of the Magi; The Knight and Death; Revelation of St. John.

Dwight, Timothy. 1752-1817. Am. author and divine.

ARLY, Jubal A. 1818?-.... Confederate general.

Eastlake, Sir Charles Lock. 1793-1865. English painter. Eaton, Amos. 1777-1842. American naturalist.

Eaton, William. 1764-1811. American soldier.

Eble, Jean Baptiste. 1758–1812. French general.

Edes, Benjamin. 1732-1803. Am. patriot and journalist.

Edgeworth, Maria. 1767-1849. English novelist.

Edgeworth, Richard Lovell. 1744-1817. English author; father of preceding.

Edison, Thomas Alva. 1847-.... American electrician and inventor.

Edmund I. 922?-946. Anglo-Saxon king. II., Ironside, 989-1016.

Edmunds, George F. 1828—.... American lawyer and statesman. Born in Vermont; admitted to the bar 1849; became U. S. senator in 1866 to fill an unexpired term, and has since been three times re-elected. Elected president of the Senate in March, 1883.

Edward I.-925. King of the Anglo Saxons. II., The Martyr, 960?-978; assassinated by order of his stepmother. III., The Confessor, 1004-1066.

Edward I. Longshanks. 1239-1307. King of England; conquered Wales and Scotland. II., 1284-1327; defeated by Bruce at Bannockburn; dethroned by the Queen and her favorite, Roger de

Mortimer, in 1326; was murdered the following year. III., 1312-1377; son of Edward II.; proclaimed king in 1327; executed Mortimer, and imprisoned the queen-mother; carried on war with France and won the great victory of Crecy. IV., 1441-1483. V., 1470-1483; ascended the throne at the age of 13, but assassinated two months later. VI., 1537-1553.

Edward, Prince of Wales. The Black Prince. 1330-1376.
Son of Edward III. Participated in the invasion of France, commanding the main body of the English at Crecy. Won the battle of Poitiers.
Edward the Confessor. 1004-1066. King of England.

Edwards, Amelia Blandford. 1831-.... English novelist. Edwards, Jonathan. 1703-1758. American theologian and metaphysician. Freedom of the Will.

Edwin. 586?-633. King of Northumbria.

Edwy. 938-958. King of the Anglo-Saxons.

Effingham. See Howard, Charles.

Egbert. The Great. 775?-838. Saxon king of Wessex.
Egmont, Lamoral, Count. 1522-1568. Flemish statesman
and soldier. Tried for treason and executed.

Elbee, Gigot d'. 1752-1794. Vendean general.

Eldon, John Scott, Earl of. 1751-1838. English statesman. Elgin, James Bruce, Earl of. 1811-1863. British statesman. Governor-general of Canada.

Elgin, Thomas Bruce, Earl of. 1777-1841. British diplomatist. The "Elgin Marbles," in the British museum, were obtained by him at Athens and sold to the government for £35,000.

Eliot, George. See Evans, Marian C.

Eliot, John. Apostle of the Indians. 1604-1690. English clergyman. Translated the Bible into the Indian language.

Eliot, Sir John. 1590-1632. Eng. orator and statesman.

Elizabeth. 1533-1603. Queen of England. Daughter of Henry VIII. Proclaimed Queen 1558; restored the Protestant religion. During her reign the Spanish Armada was repulsed, and Mary Stuart executed. Essex, Leicester and Raleigh were among her favorites.

Elizabeth Petrovna. 1709-1762. Empress of Russia.

Daughter of Peter the Great. Ascended the throne in 1741; took up arms against Frederick the Great, and her armies in 1760 captured Berlin. Though unmarried, she was the mother of a large family.

Elizabeth, Saint. 1207-1231. Queen of Hungary.

Ellenborough, Edward Law, Lord. 1748-1818. English chief justice.

Ellenborough, Edward Law, Earl of. 1790-1871. English statesman.

Ellery, William. 1727-1820. American patriot.

Elliot, George Augustus, Lord Heathfield of Gibraltar. 1718-1790. British commander.

Elliott, Ebenezer. The Corn Law Rhymer. 1781-1849. English poet.

Elliott, Jesse Duncan. 1782-1845. American commodore. Ellsworth, Ephraim Elmer. 1837-1861. American officer.

Ellsworth, Oliver. 1745–1807. Am. jurist and statesman. Ellwood, Thomas. 1639–1713. English Quaker author.

Elssler, Fanny. 1811-.... Viennese dancer.

Elzevir. A celebrated family of printers and publishers at Leyden, 1570-1680.

Emerson, Ralph Waldo. 1803-1882. American essayist, philosopher and poet. Born in Boston; graduate of Harvard; ordained Unitarian minister in 1829, but retired from the ministry in 1832; travelled in Europe, and on his return began lecturing. The first volume of his Essays appeared in 1841, and his Representative Men, regarded by some as his greatest work, in 1850.

Emmanuel. The Great. 1469-1521. King of Portugal.

Emmet, Robert. 1780-1803. Irish patriot and orator. Early in life became a leader of the "United Irishmen," and in 1803 became implicated in the killing of Lord Kilwarden, chief justice of Ireland, and others. Although defending himself with great eloquence, he was sentenced to death and executed.

Emmet, Thomas Addis. 1764-1827. Brother of the preceding. A leader of the "United Irishmen," and imprisoned from 1798 till 1801. Removed to America in 1804, and was in 1812 elected attorney-general of New York.

Empedocles. 475-... B.C. Greek philosopher.

Encke, Johann Franz. 1791-1865. German astronomer.

Endicott, John. 1589-1665. Colonial governor of Mass.

Enghien, Louis Antoine Henri de Bourbon, Duc d'. 1772-1804. French prince. Charged with conspiracy, and executed by order of Napoleon.

Ennius, Quintus. 239-169 B.C. Roman epic poet.

Enoch (or Henoch). 3378-...B.C. Father of Methuselah. Translated at the age of 365.

Epaminondas. 412?-362 B.C. Theban statesman, orator and general. Defeated the Spartans at Leuctra; died after his victory at Mantinea, from a wound received in battle.

Epictetus. 60-.... Greek Stoic philosopher. Enchiridion. Epicurus. 340?-270 B.C. Greek philosopher; founder of the Epicurean school.

Erasmus, Desiderius. 1465-1536. Dutch scholar.

Erastus, Thomas. 1524-1583. - Ger. physician and writer. Eratosthenes. 276-196? B.C. Greek geometer. Considered the founder of the science of astronomy.

Eric XIII. 1382-1450. King of Sweden (VII. or VIII. of Denmark). XIV., 1535?-1577.

Eric the Red. Fl. 1000. Scandinavian navigator; discovered Greenland.

Ericsson, John. 1803-1889? Swedish engineer and inventor. Constructed the " Monitor" which destroyed the Confederate iron-clad Merrimac.

Erigena, Joannes Scotus. Fl. 850. Irish philosopher. Ernesti, Johann August. 1707-1781. German scholar.

Erskine, Ebenezer. 1680-1754. Scottish theologian.

Erskine, Henry. 1746-1817. Scottish lawyer and orator.

Erskine, Thomas, Baron. 1750-1823. Scottish lawyer and orator. Recognized as the greatest advocate of his time. "He spoke as his clients would have spoken, being endowed with his genius." Admitted to the bar in 1778; successfully defended Lord George Gordon in 1781; elected to the House of Commons in 1783, and again in 1790; secured the acquittal of Hardy and John Horne Tooke in the state trials of 1794; was made lord chancellor, and created a peer in 1806; retired from office in 1807.

Escobar y Mendoza, Antonio. 1589-1669. Spanish Jesuit and casuist. Cases of Conscience.

Espartero, Joaquin Baldomero, Duke de la Vittoria. 1792-1879. Spanish statesman and general; defeated the Carlists.

Essex, Robert Devereux, second Earl of. 1567-1601. Favorite of Queen Elizabeth; beheaded for high treason.

Essex, Robert Devereux, third Earl of. 1592-1647. English Parliamentary general.

Estaing, Charles Hector, Count d'. 1729-1794. French admiral; beheaded.

Esterhazy de Galantha, Paul. 1635-1713. Hungarian governor-general.

Ethelbeld.-860? King of Wessex.

Ethelbert. 455?-616. King of Kent.

Ethelbert.-866. King of the Anglo-Saxons.

Ethelred I.-871. King of the Anglo-Saxons. The Unready, 968-1016; ordered massacre of Danes in 1002.

Ethelwulf. ...-858. King of Wessex.

Euclid of Alexandria. Fl. 300 B.C. Greek mathematician. Eudoxie (or Eudocia). 394?-461. Roman empress.

Eugene of Savoy. (Prince François Eugene de Savoie-Carignan), 1663-1736. Austrian general. Defeated the Turks at Zenta: associated with Marlborough at Blenheim, Oudenard and Malplaquet: deseated the Turks at Peterwaradin in 1716, and at Belgrade in 1717.

Eugenie Marie de Montijo. 1826-... Empress of the French; wife of Napoleon III.

Eugenius I. Pope; ruled from 654 to 658. II., 824-827. III., 1145-1153. IV., 1431-1438; deposed; died in 1447.

Euler, Leonard. 1707-1783. Swiss mathematician.

Euripides. 480-406? B.C. Greek tragic poet.

Eusebius of Nicomedia. Fl. 325. Arian prelate.

Eusebius Pamphili. 266-340? Ecclesiastical historian, and bishop of Cæsarea.

Evald, Johannes. 1743-1781. Danish poet.

Evans, Marian C. George Eliot. 1820-1881. English novelist. The daughter of a clergyman. Lived with George H. Lewes, as his wife, for several years, and after his death married J. W. Cross. Adam Bede; Romola; Middlemarch; Daniel Deronda.

Eustachi, Bartolommeo. 1510-1574. Italian anatomist.

Evarts, William Maxwell. 1816-.... American lawyer and statesman. Leading counsel for the defence in the impeachment trial of President Johnson; attorney-general 1868-9; counsel for the United States in 1872 before the Geneva Arbitration Tribunal.

Evelyn, John. 1620-1706. English author. Sylva.

Everett, Edward. 1794-1865. American scholar, orator and statesman. Graduated at Harvard, 1811, and ordained a minister in 1814. Appointed professor of Greek at Harvard 1815, but did not occupy the chair until 1810, after completing a course of study at Göttingen and travelling extensively in Europe. Elected to Congress in 1824, remaining in that body for ten years, and in 1835 became governor of Massachusetts. Minister to England, 1841-5. Secretary of state, 1852. Elected to the United States Senate, 1853, but resigned on account of illness. Defeated for the vice-presidency in 1860. Supported the Federal government during the civil war.

Ewing, Thomas. 1789-1871 American statesman.

Exmouth, Edward Pellew, Viscount. 1757-1833. English admiral.

Eyck, van, Hubert. 1366-1426 Flemish painter.

Eyck, van, Jan. John of Bruges. 1390?-1440? Brother of preceding. Flemish painter Adoration of the Magi.

Eyre, Edward John. 1818?-... Eng. explorer in Australia.

Ezekiel. Fl. 7th century B.C. Hebrew prophet.

Ezra. Fl. 5th century B.C. Hebrew law-maker.

ABER, Frederick William. 1815-1863. English priest and writer.

Fabius Maximus, Quintus. Cunctator. 203 BC. Roman consul and general. As opponent of Hannibal he inaugurated the "Fabian" policy, carrying on only a defensive war.

Faed, Thomas. 1826- ... Scottish painter.

Fahrenheit, Gabriel Daniel. 1686-1740. German natural philosopher and inventor of the Fahrenheit thermometer.

Fairfax, Thomas, Lord. 1611-1671. Parliamentary general. As commander-in-chief in 1645, won the battle of Naseby.

Falconer, William. 1735?-1769. Scot. poet. The Shipwreck. Faliero (or Falieri), Marino. 1278-1350. Doge of Venice; the hero of Byron's tragedy.

Faneuil, Peter. 1700-1743. American merchant. Faraday, Michael. 1791-1867. English chemist and natural philosopher. Founder of the science of magneto-electricity. Farnese, Alessandro, Duke of Parma. 1546-1593. It. general. Farquhar, George. 1678-1707. Irish dramatist. The Beaux' Stratagem; The Constant Couple. Farragut, David Glascoe. 1801-1870. American admiral. Passed the New Orleans forts and captured New Orleans in 1862, and was made rear-admiral same year. Congress created for him the office of vice-admiral in 1864, and he was made admiral in 1866. Faust, Karl. 1825-.... German composer. Faust, Dr. Johann. Fl. 1500. German necromancer. Faust, Johann.-1466? One of the inventors of printing. Fawkes, Guy.-1606. English conspirator; executed. ("Gunpowder plot.") Fearne, Charles. 1749-1494. English jurist.

Featherstonhaugh, George William. ...-1866. American traveller and geologist. Fechter, Charles Albert. 1824-1879. English actor. Fenelon, François de Salignac de la Mothe. 1651-1715. French prelate and author. Telemachus. Fenwick, Sir John.-1697. English conspirator. Ferdinand I. 1503-1564. Emperor of Germany. 1578-1637; king of Bohemia and Hungary. III.,-1657. Ferdinand IV. 1751-1825. King of Naples. (I. of the two Sicilies.) Ferdinand II. 1810-1859. King of the two Sicilies. Ferdinand I. The Great. 1000-1065. King of Castile. V., The Catholic (II. of Aragon, III. of Naples, II. of Sicily), 1452-1516; founded the Spanish monarchy. VI., The Wise, 1713-1759. VII., Ferguson, Adam. 1724-1816. Scottish philosopher. Ferguson, James. 1710-1776. Scottish astronomer. Fergusson, James. 1808-.... Scottish architect. Fernandez, Diniz. Fl. 1446. Portuguese navigator. Fernandez, Juan.-1576. Spanish navigator. Fernel, Juan. 1497-1558. French physician and writer. Ferry, Jules François Camille. 1832-... Fr. statesman. Fersen, Axel von, Count. 1755-1810. Swedish field-marshal. Fesch, Joseph, Cardinal. 1763-1836. French prelate. Fessenden, William Pitt. 1806-1869. Am. statesman. Feuerbach, Paul Johann Anselm. 1775-1833. German jurist. Reformer of the criminal law. Feuillet, Octave. 1812-... French author. Fichte, Immanuel Hermann. 1797-1879. Ger. philosopher. Fichte, Johann Gottlieb. 1762-1814. Ger. metaphysician. Field, Cyrus West. 1819-.... American merchant and financier. Established the first telegraph cable between America and Europe, via Newfoundland. Field, David Dudley. 1805-... American jurist. Fielding, Henry. 1707-1754. Eng. novelist and dramatist. Son of Edmund Fielding, a lieutenant-general under Marlborough. Commenced reading law at 18, but discontinued this study in a few years, and began to lead a dissolute life. About this time, however, he

produced several successful plays. After marrying, and squandering his

wife's fortune, he resumed the study of law, but, gout preventing his

practicing, he turned his mind to literature. In 1749 his great novel,

Tom Jones, was published. In 1750 he was appointed a magistrate, and

endeared himself to the inhabitants of the London suburbs by suppressing numerous bands of robbers. Among Fielding's novels, besides

Tors Jones, may be mentioned Amelia and Joseph Andrews.

Fieschi, Joseph Marco. 1790-1836. Corsican conspirator; inventor of the so-called infernal machine. Leader in a conspiracy to kill Louis Philippe. Executed. Fiesco (or Fieschi), Giovanni Luigi, Count of Lavagna. 1525-1547. Genoese conspirator. Having sent some of his adherents to capture the palace of the Dorias, he made a night attack on the Doria galleys in the harbor, but fell while passing from one galley to another, and was drowned before help could reach him. Fiesole, Giovanni da. Fra Angelico. 1387-1455. It. painter. Fillmore, Millard. 1800-1874. American statesman; thirteenth president of the United States. Born in New York; learned fuller's trade; read law and acquired a lucrative practice in Buffalo. Elected to Congress 1832, and continued a member of that body till 1842. Elected vice-president 1848, and became president on the death of Taylor, in 1850. Approved the Fugitive Slave Law and the compromise measures of Henry Clay, and made Daniel Webster secretary of state. Fish, Hamilton. 1808-.... American statesman. Fisher, John. 1459-1535. English prelate; executed. Opposed the Reformation. Fitch, John. 1743-1798. Am. inventor. (Steamboat.) Fitzgerald, Edward, Lord. 1763-1798. Irish revolutionist. Flaminius, Caius.-217 B.C. Rom. general and consul. Flaminius, Titus Quintius. 230-174 B.C. Roman general and consul. Flamsteed, John. 1646-1719. Eng. astronomer. Flaxman, John. 1755-1826. English sculptor. Fleetwood, Charles-1692. Eng. Parliamentary general. Fletcher, Andrew (of Saltoun). 1653-1716. Scottish author. Fletcher, John. 1576-1625. English poet and dramatist; associate of Beaumont. The Maid's Tragedy; The Faithful Shepherdess. Flotow, Frederick Ferdinand Adolphus von. 1812-1883. German composer. Martha. Fontenelle, Bernard de Bovier de. 1657-1757. Fr. author. Foote, Andrew Hull. 1806-1863. American rear-admiral. Foote, Samuel. 1720-1777. English wit and comedian. Ford, John 1586-1639. English dramatist. Forrest, Edwin. 1806-1872. American tragedian. Forster, John. 1812-1876. English biographer. Forster, William Edward. 1818-... English statesman. Forsyth, John. 1780-1841. American statesman. Fortescue, Sir John. 1395?-1485? English jurist. Fortuny, Mariano. 1839-1874. Spanish painter. Foscari, Francesco. 1373-1457. Doge of Venice. Foster, Birket. 1812-... English engraver. Foster, Stephen Collins. 1826-1864. Am. song-writer. Fourier, François Charles Marie. 1772-1837. French socialist; founder of Fourierism. Theory of Universal Unity. Fowler, Orson Squire. 1809-1887. Am. phrenologist. Fox, Charles James. 1749-1806. English orator and statesman. Entered Parliament in 1768 as a Tory, but joined the opposition in 1773, and became leader of the Whigs, in which capacity, and also as foreign secretary and secretary of state, he opposed the policy of Pitt. Fox, George. 1624-1690. English founder of the society of Friends, or Quakers. Fox, John. 1517-1587. English Protestant clergyman and author. Book of Martyrs. Foy, Maximilian Sebastian. 1775-1825. French orator and

Fra Bortolommeo di San Marco. See Baccio della Porta.

Fra Diavolo. (Michael Rozzo.) 1769–1806. Neapolitan brigand.

Francia, Jose Gaspar Rodriguez. 1757?-1840. Dictator of Paraguay; adopted a policy cutting off all intercourse with other nations.

Francis I. 1494-1547. King of France; defeated at Pavia. II., 1543-1560.

Francis I. 1708-1765. Emperor of Germany. II. (I. of Austria), 1768-1835.

Francis II. 1836-... King of the Two Sicilies.

Francis Borgia, Saint. 1510-1572. Duke of Gandia and Viceroy of Catalonia; joined the Society of Jesus and became a zealous preacher; elected general of the order in 1565.

Francis de Paula, Saint. 1416-1507. Italian Franciscan monk; founded the order Fratres Minimi.

Francis de Sales, Saint. 1567-1622. French Jesuit, writer and orator; bishop of Geneva. Treatise on the Love of God.

Francis of Assisi, Saint. 1182-1226. Italian founder of the Franciscan order.

Francis Joseph Charles. 1830-... Emperor of Austria. Francis, John Wakefield. 1789-1861. Am. physician.

Francis, Sir Philip. 1740-1818. British statesman and writer. Believed to have been the author of the Letters of Junius.

Francis Xavier, Saint. See Xavier.

Franklin, Benjamin. 1706-1790. American statesman and philosopher. Born in Boston; the youngest of a family of seventeen children. His father was a tallow-chandler and soap-boiler. Learned the trade of a printer and studied diligently. Removed to Philadelphia, where he established the Pennsylvania Gazette. Began the publication of Poor Richard's Almanac in 1735. Discovered the identity of lightning and electricity in 1752, by means of a kite. Franklin occupied many positions of public trust and was the recipient of many honors. He was deputy postmaster-general of the colony; delegate to the Continental Congress; minister to France, 1776-85; president of Pennsylvania, 1785-8; member of the convention of 1787.

Franklin, Sir John. 1786-1847. English Arctic explorer; perished in the Arctic regions.

Fredegonde. 546?-596. Wife of Chilperic I. of France.

Frederick I. Barbarossa. 1121-1190. Emperor of Germany. Crowned by Pope Adrian IV. Reduced Milan in 1158, but was defeated by the Lembards near Legnano. Joined the third crusade in 1189 with 150,000 men, and defeated the Turks at Iconium. Died in the Holy Land. II., 1194-1250. Opposed by the Guelphs and the pope in his project to unite Italy and Germany in one empire. Began a crusade against the Moslems in 1227, but turned back, and was excommunicated by Pope Gregory IX. Resumed the crusade in 1228, captured Jerusalem and made peace with the pope. Defeated the Guelphs at Cortenuova, 1237, and renewed war with the pope.

Frederick William. The Great Elector. 1620-1688 Elector of Brandenburg; founder of the Prussian monarchy.

Frederick I. 1657-1713. First king of Prussia. II. (Frederick the Great), 1712-1788. Subjected to inhuman treatment in youth by his father, he gave but little promise of his future greatness. Ascended the Prussian throne in 1740, and invaded Silesia, which was ceded to him by Maria Theresa in 1742. An alliance having been formed against him by Austria, Russia and France, he began the Seven Years' War in 1756 by invading Saxony. Gained a great victory at Prague in 1757, but was defeated at Kolin soon afterward. His affairs were now in a desperate condition, but in the same year he defeated a French army twice as large as his own at Rossbach, and won a brilliant and decisive victory over the Austrians at Leuthen. In 1759 he was defeated at Kunnersdorf, and Berlin was captured by the allies, but in 1760 he gained the victories of Liegnitz and Torgau, and peace was made in 1763, Prussian Poland being added to Frederick's dominions. Besides being a great general and monarch, Frederick was a voluminous writer.

Frederick William I. 1688-1740. King of Prussia. Father of Frederick the Great. II., 1744-1797. III., 1770-1840; founded the Zollverein. 1V., 1795-1861.

Frederick William Nicholas Charles. 1831-1888. Crown prince of Prussia and of the German empire.

Frederick VI. 1768-1839. King of Denmark. VII., 1808-1863.

Freeman, Edward Augustus. 1823-... English historian.

The Norman Conquest; Historical Essays; History of Federal Government.

Freiligrath, Ferdinand. 1810-1876. German lyric poet.

Frelinghuysen, Theodore. 1787-1862. Am. statesman.

Frelinghuysen, Frederick Theodore. 1817-1885. Nephew of preceding. American statesman.

Fremont, John Charles. 1813-.... American politician, explorer and general. Republican candidate for the presidency in 1856.

Freytag, Gustav. 1816-.... German novelist. Soll und Haben.

Froebel, Frederick. 1782-1852. German educator; founder of the "Kindergarten."

Froila I. 722-768. King of Spain.

Froissart, Jean. 1337-1410? French historian. Chronicles. Froude, James Anthony. 1818-... English historian. Short Studies on Great Subjects; History of Henry VIII.

Fry, Elizabeth (nee Gurney). 1780-1845. Eng. philanthropist.
Fugger. A rich Augsburg family. Fl. 15th and 16th centuries.
Fuller, Sarah Margaret, Countess d'Ossoli. 1810-1850. Am. authoress.

Fulton, Robert. 1765–1815. American engineer and inventor of the steamboat. Born in Pennsylvania. After spending some years in London as an artist, he turned his attention to civil engineering and inland navigation. In 1796 he published a treatise on Canal Navigation. Went to Paris, and there invented a submarine torpedo. He returned to New York in 1801 and, with the assistance of Robert Livingston, discovered steam navigation. In 1806 he built the steamer Clermont, which made regular trips between Albany and New York at a speed of five miles an hour. Although he spent a large amount of money on his invention, the patent did not prove of pecuniary value to him.

Fuseli, John H. 1742-1825. Swiss historical painter.

ADSDEN, Christopher. 1724-1805. American states-

Gadsden, James. 1788–1858. American statesman. (The Gadsden purchase.)

Gage, Thomas. 1720?-1787. British general in America.

Gaines, Edmund Pendleton. 1777-1849. American general.
 Gaines, Myra Clark. 1805?-.... Wife of E. P. G. American heiress.

Gainsborough, Thomas. 1727-1788. English painter.

Galba, Servius Sulpicius. B.C. 4?-A.D. 69. Roman emperor.

Galen. 131-205? Greek physician, medical writer and philosopher, living at Rome. De Locis Affectis.

Galerius, Caius Valerius Maximianus.-311. Roman emperor.

Galilei, Galileo. Galileo. 1564-1642. Italian astronomer. Discovered, about 1584, the isochronism of the vibrations of a pendulum, and the law by which the velocity of falling bodies is accelerated. Adopted in astronomy the system of Copernicus, and constructed his wonderful telescope in 1609. Through it he discovered the satellites of Jupiter, and was enabled to explore the surface of the moon and view the phases of Venus. He also ascertained that the "milky way" was composed of myriads of stars. In 1632 he produced his Dialogues on the Ptolemaic and Copernican Systems, but was compelled by the

Inquisition to abjure the theory of the motion of the earth. He was detained in prison for several years, but it does not seem that he was severely treated, as he was allowed to pursue his studies until prevented by blindness.

Gall, Franz Joseph. 1758-1828. German physician; founder of phrenology.

Gallatin, Albert. 1761-1849. American statesman; native of Switzerland. Secretary of the treasury, 1801-13.

Gallaudet, Thomas Hopkins. 1787-1851. American clergyman and instructor of deaf-mutes.

Gallienus, Publius Licinius Valerius. 233?-268. Roman emperor.

Gallitsin, or Galitzin. An illustrious family of Russian princes. Galt, John. 1779-1839. Scottish novelist.

Galvani, Aloisio. 1737-1789. Italian discoverer of galvanism. Gama, Vasco da. 1450?-1524. Portuguese navigator.

Gambetta, Leon. 1838-1882. French radical orator and statesman.

Gambier, James, Baron. 1756-1833. British admiral. Garcilaso de la Vega. 1503-1536. Spanish poet.

Gardiner, Stephen. 1483-1555. Eng. prelate and statesman.

Garfield, James Abram. 1831-1881. Twentieth president of the United States. Born in Ohio; worked on a farm in boyhood, and learned the trade of a carpenter; afterward became driver and helmsman of a canal-boat; graduated at Williams College in 1856; appointed professor of Latin and Greek at Hiram College, Ohio, and chosen president of that institution in 1858. About this time he married Miss Lucretia Randolph, and occasionally acted as a Campbellite minister. Elected to the state senate in 1859, and in 1861 was chosen colonel of an Ohio regiment; promoted to the rank of brigadier-general. Elected to Congress in 1862, and remained in that body until 1880, when he was made senator. Nominated for the presidency by the Republican party in 1880, and elected the following November. Shot by Charles J. Guiteau, in Washington, July 2, 1881, and died on September 19 of same year.

Garibaldi, Giuseppe. 1807-1882. Italian patriot and general. Garrick, David. 1716-1779. English actor.

Garrison, William Lloyd. 1804-1879. Am. abolitionist.

Garth, Sir Samuel. 1672?-1719. Eng. physician and poet. Gascoigne, George. 1535-1537. English poet.

Gaskell, Elizabeth Cleghorn. 1810-1865. English authoress. Gassendi, Pierre. 1592-1655. French savant.

Gates, Horatio. 1728-1806. American Revolutionary general; born in England. Captured Burgoyne's army at Saratoga.

Gatling, Richard Jordan. 1818-.... American inventor.

Gauss, Carl Friedrich. 1777-1855. German mathematician. Gautama Booddha. 624-543? B.C. Hindoo reformer, and founder of Buddhism. See Buddha.

Gautier, Théophile. 1811-1872. French poet and novelist. Gaveston, Piers de.-1312. Favorite of Edward II. of England; executed by the nobles.

Gay, John. 1688-1732. English poet.

Gay-Lussac, Joseph Louis. 1778-1850. French chemist and natural philosopher; discovered cyanogen.

Gellert, Christian Fürchtegott. 1715-1769. German poet. Genevieve, Saint. 422?-512. French religious, said to have converted Clovis to Christianity. Patron of Paris.

Genghis Khan. 1163-1227. Mogul conqueror; subdued China and Persia.

Genseric. 406?-477. King of the Vandals. Invaded Africa, 429; defeated the Romans in numerous battles; captured Carthage, 439; captured and sacked Rome, 455; defeated the navy of the Emperor Marjorian in 457.

Geoffroy of Monmouth. 1100?-1154. Eng. chronicler.

George I. (Lewis.) 1660-1727. King of Great Britain. II. (Augustus), 1683-1760. Defeated the French at Dettingen in 1743. Charles Edward Stuart was defeated at Culloden, 1746, by the Duke of Cumberland, and the latter part of the reign of George II. was marked by victories over the French in Canada, in India, and on the ocean. III. (William Frederick), 1738-1820. Arbitrary and ignorant, and through his obstinacy lost the American colonies. Became insane in 1810. IV. (Augustus Frederick), 1762-1830. "The First Gentleman of Europe." Led a dissipated life and incurred an immense debt. Married, in 1786, Mrs. Fitzherbert. She being a Roman Catholic, the marriage was illegal. As his father refused to pay his debts unless he contracted a regular marriage, he was induced, in 1795, to marry his cousin, whom he regarded with great dislike, a separation being the result. Became regent 1811. Took little interest in public affairs. One year before his death, an act was passed relieving Roman Catholics from political dis-

George, Saint. Fl. 3d century. Bishop of Alexandria. Patron saint of England. To him is attributed the destruction of a terrible dragon.

Gerard-Thom, or Tenque. 1040?-1121. Founder of the Knights of St. John of Jerusalem.

Germanicus, Cæsar. B.C. 14-A.D. 19. Roman general.

Gerome, Jean Léon. 1824-... Fr. painter.

Gerry, Elbridge. 1744-1812. Am. Revolutionary statesman; signer of the Declaration of Independence. Governor of Massachusetts, 1810; vice-president, 1812.

Gessler.-1307. Austrian bailiff killed by Tell.

Gesner, Conrad. 1516-1565. Swiss naturalist.

Ghiberti, Lorenzo. 1378-1455. Florentine sculptor.

Gibbon, Edward. 1737-1794. English historian. Educated at Oxford. The first volume of his great work, History of the Decline and Fall of the Roman Empire, appeared in 1776; the next two in 1781, and in 1783 he retired to Lausanne, in Switzerland, where he completed the last three volumes, which appeared in 1788. Gibbon has been justly criticised for the antagonism to the Christian faith shown in this work.

Gibson, John. 1791-1866. English sculptor.

Giddings, Joshua Reed. 1795-1864. Am. abolitionist.

Gifford, Sanford Robinson. 1823-1880. American painter.

Gifford, William. 1757-1826. English writer and critic; founder of the Quarterly Review. Studied at Oxford, after serving five years as a shocmaker's apprentice.

Gilbert, Sir Humphrey. 1539-1583. English navigator. Gilbert, Sir John. 1817-.... English artist.

Gilbert, William Schwenck. 1836-... English humorous author and librettist. Bab Ballads; Pygmalion and Galatea; Pinafore; Patience; Pirates of Penzance; Iolanthe; Princess Ida, etc.

Giles, Wm. Branch. 1762-1830. American statesman.

Gilray, James. 1785-1815. English caricaturist.

Girard, Stephen. 1750-1831. American merchant and banker, born in France. Founded Girard College.

Girardin, Emile de. 1806-... French journalist. Giulio Romano. 1492-1546. Italian painter and architect. Gladstone, William Ewart. 1809-.... English statesman.

Glauber, Johann Rudolph. 1604-1668. German chemist. Glendower, Owen. 1349?-1415. Welsh chieftain.

Gluck, Christoph Wilibald von. 1714-1787. Ger. composer. Gobelin, Gilles and Jean. Fl. 1450. French dyers.

Godfrey of Bouillon. 1058?-1100. Leader of first crusade. Godiva. Lady Godiva. Fl. 11th century. English heroine;

wife of Leofric, Earl of Leicester.

Godman, John D. 1794-1830. Am. physician and naturalist.
 Godunoff, Boris Fedorovitch. 1552-1605. Czar of Russia.
 Godwin, William. 1756-1836. Eng. novelist. Caleb Williams.
 Goethe, Johann Wolfgang von. 1749-1832. German poet and author, dramatist, scientist and statesman. Faust: Wilhelm Meister: Egmont: Sorrows of Werther: Iphigenia in Tauris; West-Eastern Divan.

Goffe, William. 1605?-1679. Eng. Puritan and regicide. Goldsborough, Lewis M. 1805-1876. Am. rear-admiral.

Goldsmith, Oliver. 1728-1774. Irish poet and miscellaneous writer. Educated at Trinity College, Dublin, and afterward studied medicine. Squandered in dissipation a large portion of the funds furnished for his education. In London, he became the intimate friend of Dr. Johnson. His Vicar of Wakefield was written while he was under arrest for debt. The Traveller: The Deserted Village: She Sloops to Conguer.

Gomez, Sebastiano. 1616-1690. Spanish painter. A slave of Murillo, who liberated him and took him into his studio.

Gonsalvo de Cordova, Hernandez. The Great Captain. 1443?-1515. Spanish commander.

Goodrich, Samuel Griswold. Peter Parley. 1793-1860.
American author.

Goodyear, Charles. 1800-1860. American inventor. (Vulcanized india-rubber.)

Gordon, George, Lord. 1750-1793. English agitator. Gorgey, Arthur. 1818-.... Hungarian general.

Gore, Catherine Grace. 1799-1861. English novelist.

Gortschakoff, Alexander Michaelovitch, Prince. 1798-1883. Russian statesman and diplomatist.

Gottschalk, Louis Moreau. 1829–1869. Am. composer.

Gough, John B. 1822-1886. American temperance lecturer, born in England.

Gould, Augustus Addison. 1805–1866. American naturalist. Gould, Hannah Flagg. 1789–1865. American poetess.

Gould, Jay. 1836-... American railway manager.

Gounod, Charles François. 1818-... French composer. Faust: La Reine de Saba: Romeo and Juliet.

Gower, John. 1320?-1402. English poet.

Gracchus, Caius Sempronius. 159-126 B.C. Rom. statesman.
 Graham, John, Viscount Dundee. Claverhouse. 1650?-1689. Scottish officer, noted for merciless severity toward the Covenanters.

Graham, Sylvester. 1794–1851. American vegetarian. Granger, Gideon. 1767–1822. American statesman.

Grant, James. 1822-1887. Scottish novelist.

Grant, Ulysses Simpzon. 1822-1885. Eighteenth president of the United States. Born in Ohio; graduated at West Point, 1843; served in Mexico; became a captain in 1853. Resigned in 1854, and after passing some time in St. Louis, removed to Galena, Ill., in 1859, and engaged in business. In 1861 he was made aide-de-camp to the governor of Illinois, but soon after was chosen colonel of the Twenty-first Illinois Volunteers, and in July of same year was made brigadier-general. His war record is history. Made commander-in-chief of the Union armies in March, 1864. Elected to the presidency in 1868, and again in 1872, and after the expiration of his second term he travelled extensively in Europe and Asia, being received everywhere with the highest honors. He was a prominent candidate for the presidencial nomination before the Republican convention in 1880.

Grattan, Henry. 1746-1820. Irish orator and statesman. Gray, Asa. 1810-1888. American botanist.

Gray, Thomas. 1716-1771. English poet. Declined the position of poet-laureate. Elegy. Greeley, Horace. 1811–1872. American journalist. Born in New Hampshire; learned the printer's trade, and worked as a journeyman printer in New York for one year. Founded the New York Tribune in 1841. A staunch Whig and Republican, he favored Fremont for the presidency in 1856, and Lincoln in 1860. Accepted the Democratic nomination in 1872, but was defeated at the election by Grant.

Green, John Richard. 1874-1883. English historian. Short History of the English People.

Green, Seth. 1817-1888. American pisciculturist.

Greene, Nathaniel. 1742-1786. Am. Revolutionary general. Greenleaf, Benjamin. 1786-1864. American mathematician. Greenleaf, Simon. 1783-1853. American jurist.

Greenough, Horatio. 1805-1852. American sculptor.

Gregory I. (Saint.) The Great. 540-604. Pope, ascending the pontifical chair in 59 °. II., ruled 715-731. III., 731-741. IV., 827-844. V., 997-999 VI. 1544-1047. VII. (St. Hildebrand), 1073-1085; excommunicated Henry IV. VIII., 1187; died same year. XI., 1227-1241; excommunicated Frederick II. X., 1271-1276. XI., 1370-1378; condemned the doctrines of Wycliffe. XII., 1456-1409, when he and the anti-pope, Benedict XIII., were deposed by the council of Pisa; died 1417. XIII., 1572-1585; reformed the Julian calendar. XIV., 1590-1591; excommunicated Henry IV. of France. XV., 1621-1623. founded the Propaganda. XVI., 1831-1846; succeeded by Pius IX.

Gregory of Nyssa, Saint. 332-394. Greek father of the church.

Gregory of Tours, Saint. 540-595. French prelate and historian.

Gregory, James. 1638-1674. Greek geometer.

Gregory Nazianzen, Saint. 326?-389. Bishop of Constantinople.

Grenville, George. 1712-1770. Eng. statesman. (Stamp act.) Grevy, François Paul Jules. 1813-... French president.

Grey, Charles, Earl. 1764-1845. English statesman.

Grey, Lady Jane. 1537-1554. Gifted English lady; executed. Grimm, Friedrich Melchior, Baron. 1723-1807. Ger. writer. Grimm, Jakob Ludwig (1785-1863), and Wilhelm Karl (1786-

1859) German philologists; brothers. Grisi, Giulia. 1812–1869. Italian singer.

Griswold, Rufus Wilmot. 1815–1857. American author.

Grotius (De Groot), Hugo. 1583-1645. Dutch jurist and theologian.

Grouchy, Emmanuel de, Marquis. 1766–1847. Fr. general. Guarneri, Giuseppe A. 1683–1745. Italian violin-maker.

Guatemozin. 1497-1525. Last Aztec emperor of Mexico.
 Guelph (or Welf). Noble German family, originally Italian.
 Guiccioli, Teresa Gamba, Countess. 1801-1873. Friend of Byron.

Guido Reni. 1575-1645. Italian painter.

Guillotin, Joseph Ignace. 1738-1814. French physician;

Guiscard, Robert. 1015-1085. Norman commander.

Guise, Charles de. 1525-1574. Cardinal of Lorraine.

Guise, Claude de Lorraine de, Duke. 1496-1550. French general and statesman.

Guise, François de Lorraine de, Duke. 1519-1563.

Guise, Henry I. of Lorraine de, Duke. 1550-1588.

Guizot, François Pierre Guillaume. 1787–1874. French statesman and historian.

Gustavus I. (Gustavus Vasa.) 1496–1559. King of Sweden. II. (Gustavus Adolphus), 1594-1632. Defeated the Polish and Russian armies invading Sweden. Became the head of the Protestant league in

Germany and defeated Tilly at Leipsic in 1631, and on the banks of the Lech in 1632. At the great battle of Lützen, Wallenstein now commanding the imperial army, Gustavus was killed, but his troops nevertheless gained a complete victory. III., 1746-1792; assassinated. IV., 1778-1837; ascended the throne in 1792, but was deposed in 1809.

Gutenberg, Johann. (Gänsfleisch.) 1400-1468. inventor of printing.

Guzman, Alfonso Perez de. 1258-1309. Spanish commander. ACKLANDER, Friedrich Wilhelm von. 1816-1878.

German novelist. Military Life in Time of War.

Hadrian (or Adrian). 76-138. Roman emperor.

Hafiz, Mohammed Sherns ed-Deen. 1300?-1390? Persian poet. Divan.

Hagedorn, Friedrich von. 1708-1754. German poet.

Hahnemann, Samuel Christian Friedrich. 1755-1843. German physician and founder of homoeopathy.

Hale, Edward Everett. 1822-.... Am. clergyman and author. Hale, Sir Matthew. 1609-1676. English jurist.

Hale, Nathan, Captain. 1755-1776. American patriot.

Halevy, Jacques F. F. E. 1799-1862. French composer.

Haliburton, Thomas Chandler. Sam Slick. 1802?-1865. Nova Scotian jurist and humorous writer.

Halifax, Charles Montague, Earl of. 1661-1715. English statesman.

Halifax, George Saville, Marquis of. 1630-1605.

Hall, Charles Francis. 1821-1871. Am. Arctic explorer.

Hall, James. 1811-.... American author and judge.

Hall, Mrs. S. C. (Anna Maria Fielding.) 1805-... Irish authoress. Sketches of Irish Character; The Outlaw, etc.

Hallam, Arthur Henry. 1811-1833. English critic and essavist.

Hallam, Henry. 1777-1859. Father of preceding. English historian and critic.

Halleck, Fitz-Greene. 1790-1867. American poet. Marco Bozzaris : Fanny.

Halleck, Henry Wager. 1714-1872. American general and

Halley, Edmund. 1656-1742. English astronomer.

....-229 B.C. Carthaginian general; Hamilcar Barca. father of Hannibal.

Hamilton, Alexander. 1757-1804. American orator, statesman, financier and general. Born in the West Indies. Secretary and aidede-camp to Washington in Revolutionary war; chosen to the Continental Congress in 1782, but resigned in order to practice law; leading member of the convention of 1787; secretary of the treasury, 1789-95; became recognized leader of the Federal party. Hamilton died from a wound received in a duel with Aaron Burr, and his death was deeply

Hamilton, Sir William. 1788-1856. Scottish metaphysician. Hamilton, Sir William Rowan. 1805-1865. Irish astronomer. Hamlin, Hannibal. 1809-... American statesman.

Hampden, John. 1594-1643. English statesman and reformer. Entered Parliament in 1620. Denied the authority of the crown to levy tonnage without the consent of Parliament, and refused to contribute to the forced loan ordered by King Charles, for which he was imprisoned. Regaining his liberty and re-entering Parliament, he ably and firmly resisted the arbitrary measures of the crown. Intending, with his cousin, Oliver Cromwell, to emigrate in 1638, they were detained by order of council. In 1640 he was leader of the opposition in the Long Parliament, and the most popular public man in England. Impeached for high treason in 1642, together with four other members, the Commons refused to surrender them, the king himself going so far as to personally lead his guard in an attempt to arrest them in their seats. This caused

the greatest excitement and indignation, so that the Commons were soon enabled openly to defy the regal authority. Hampden afterward raised a regiment for the Parliamentary army, and, after displaying great courage in numerous engagements, was slain in a skirmish with Prince Rupert's forces.

Hampton, Wade. 1755-1835. American general.

Hampton, Wade. 1818-.... Confederate general. Elected governor of South Carolina in 1876, and U. S. senator in 1878.

Hancock, John. 1737-1793. American statesman; president of the Continental Congress.

Hancock, Winfield Scott. 1824-1886. American general; second in command at Gettysburg. Democratic candidate for president

Handel, George Frederick. 1684-1759. German composer. Composed sonatas at 10; produced Almeria at 18; settled in England in 1712, after spending some years in Italy, and became chapel-master of George I. The oratorio of Saul was produced 1740, and his greatest work, The Messiah, the greatest of oratorios, in 1741. Handel was stricken with blindness in 1751, but continued to conduct his oratorios. Buried in Westminster Abbey.

Hannibal. 247-183 B.C. Carthaginian general. Sworn by his father, Hamilcar Barca, to eternal enmity toward Rome; became commander of the Carthaginian forces, 221 B.C.; subdued several powerful Spanish tribes, and in 219 captured Saguntum; crossed the Alps, 218; defeated the Romans near the Ticinus and on the banks of the Trebia; routed Flaminius at Lake Thrasymene, 217; almost destroyed a superior Roman army near Cannæ, 216; captured Capua. Recalled to Carthage to repel a Roman invasion under Scipio Africanus, he was deseated at Zama in 202. Banished from Carthage about 194, through the enmity of the aristocracy. Finally ended his life by taking poison, to escape falling into the hands of the Romans.

Hans Sachs. 1494-1576. German poet and shoemaker.

Hardee, William J. 1818-1873. Confederate general.

Hardenberg, Friedrich von. See Novalis.

Hardicanute. 1017?-1042. King of England and Denmark. Hardinge, Henry, Viscount. 1785-1856. English general. Hardwicke, Philip Yorke, Earl of. 1690-1764. Eng. jurist. Hardy, Thomas. 1840-... English novelist. Far from the Madding Crowd; Under the Greenwood Tree,

Harley, Robert, Earl of Oxford. 1661-1724. Eng. statesman. Harney, William Selby. 1798-1889. American general.

Harold I. Harefoot.-1041 King of England. IL-1066 Defeated by William the Conqueror, and slain.

Haroun-al-Raschid. 766?-809. Caliph of Bagdad.

Harrison, William Henry. 1773-1841. American general and ninth president.

Harrison, Benjamin. 1833-.... Born at North Bend, O. Graduated from college at 18; studied law and began practice at Indianapolis in 1854; elected reporter of the supreme court in 1860. This office he abandoned in 1862, to aid the cause of the Union, and rose to the rank of Brigadier-General. Elected U. S. Senator, 1881, and President, 1888.

Harte, Francis Bret. 1839-.... American writer and humorist. Born in New York; removed to California at 15, where he was successively miner, school-teacher and editor. Removed to Boston, and was appointed in 1878 consul to a German port. Heathen Chinee; Luck of Roaring Camp, etc.

Harvard, John. 1608?-1688. Founder of Harvard College. Harvey, William. 1578-1657. English physician and anatomist. Discovered the circulation of the blood.

Hasdrubal.-207 B.C. Punic general; brother of Hannibal. Defeated the Scipios in Spain; slain at the Metaurus.

Hastings, Warren. 1732-1818. British general and statesman; president of the Council of Bengal, and governor-general of India. Defeated Hyder Ali, king of Mysore. After perpetrating great outrages against the Rajah of Benares and the Begums of Oude, in order to replenish the treasury, he resigned in 1775 and returned to England. Impeached soon afterward, and opposed in his trial by Burke, Sheridan and Fox, but acquitted.

Havelock, Sir Henry. 1795-1857. British general. Defeated the Sepoys in India, and relieved Lucknow.

Hawke, Edward, Lord. 1715-1781. English admiral.

Hawkins, Sir John. 1520-1595. English naval officer.

Hawthorne, Nathaniel. 1804-1864. American author. Twice-told Tales; Mosses from an Old Manse; House of Seven Gables; Scarlet Letter; The Marble Faun; The Blithedale Romance.

Haydn, Joseph. 1732-1809. German musical composer.

Born of extremely poor parents; served some years as a chorister in Vienna; appointed in 1760 chapel-master to Prince Esterhazy, who became his patron; visited London 1791, where six of his symphonies were received with great enthusiasm. His masterpiece, the oratorio of The Creation, was produced in 1798.

Haydon, Benjamin Robert. 1786-1848. English painter.

Hayes, Isaac Israel. 1832-1881. American Arctic explorer. Hayes, Rutherford Birchard. 1822-... Nineteenth president of the United States. Born in Connecticut; admitted to the bar, 1845; brigadier-general in civil war; Congress, 1865-8; governor of Ohio, 1868-76. Republican candidate for the presidency in 1876; inaugurated president in 1877, the electoral commission to determine the result of the election of 1876 having decided, by a vote of eight to seven, that Hayes had received 185 electoral votes as against 184 for Samuel I. Tilden, the Democratic candidate.

Hayne, Robert Young. 1791-1840. American orator and statesman; opponent of Webster in discussing the constitution; governor of South Carolina.

Heath, William. 1737-1814. Am. Revolutionary general.
 Heber, Reginald. 1783-1826. English prelate and author;
 bishop of Calcutta. Hymns: Journey through India.

Hegel, Georg Wilhelm Friedrich. 1770–1831. German philosopher, metaphysician and pantheist. His system of philosophy is developed in the Encyclopædia of the Philosophical Sciences.

Heine, Heinrich. 1799-1856. German lyric poet and author.
Heloise. 1101-1164. French nun; pupil and friend of Abelard.

Helps, Sir Arthur. 1817-1875. English author.

Helvetius, Claude Adrian. 1715-1771. Fr. philosopher.

Hemans, Felicia Dorothea (née Browne). 1794-1835. English poetess. Published her first volume of poems in 1808, and in 1812 married Capt. Hemans, but separated from him in 1818, she retaining all their children. Restoration of the Works of Art to Italy.

Hendricks, Thomas Andrews. 1819–1886. Am. statesman.
 Hengist.-488. Jutish chief; founded kingdom of Kent.
 Hennepin, Louis. 1640–1702? French Catholic missionary and explorer of the Mississippi.

Henrietta Maria. 1609-1669. Queen of England.

Henry I. Beauclerc. 1068-1135. King of England. Defeated his brother Robert and usurped the throne. II., 1133-1189; first of the Plantagenets; issued constitutions of Clarendon, which were, however, repealed about ten years later; conquered Ireland. During his reign Thomas à Becket was killed. III. (of Winchester), 1207-1272; warred with the barons, IV., Bolingbroke, 1366-1413; first king of the house of Lancaster. V. (of Monmouth), 1388-1422; conquered France. VI. (of Windsor), 1421-1471; his reign was made memorable by the war of the Roses. VII., 1456-1509; founded the Tudor dynasty. VIII., 1491-1547; defeated the French at Guinegaste and the Scotch at Flodden, 1513; made 'Lhomas Wolsey prime minister; applied unsuccessfully to the

pope for a divorce from Catherine of Aragon, his wife; favored the Reformation; deposed Wolsey and elevated Thomas Cranmer; had himself declared head of the church; married Anne Boleyn after the convocations of York and Canterbury had declared his marriage with Catherine invalid; declared the English Church independent of the papal see and abolished the monasteries; had Anne Boleyn executed in 1536, and married Jane Seymour the day after the execution; excommunicated by the pope, 1538; his third wife having died in 1537, he married Anne of Cleves in 1540; was divorced from her the same year and married Catherine Howard, who was executed on a charge of adultery in 1542; married Catherine Parr in 1543, she surviving him.

Henry I. 1005?—1060. King of France. II., 1518–1559; married Catherine de' Medici. III., Henri de Valois, 1551–1589; last of the Valois. IV., Le Grand, 1553–1610; king of Navarre; first of the Bourbons; assassinated.

Henry I. The Fowler. 876-936. Emperor of Germany. Defeated the Hungarians. II. (Saint), 972-1024. III., The Black, or The Bearded, 1017-1056. IV., 1050-1106; excommunicated by Gregory VII. V., 1081-1125; last of the Salic line. VI., 1165-1197. VII., 1362-1113.

Henry, Patrick. 1736-1799. American patriot and orator. Liember of the Continental Congress; governor of Virginia.

Heraclitus. Fl. 500 B.C. Greek philosopher.

Herbert, George. 1593-1632. British poet and divine.

Herder, Johann Gottfried von. 1744-1803. German author.
 Hermann (or Arminius). B.C. 16-A.D. 21. German hero.
 Defeated the Romans A.D 9, near the Lippe.

Herod. The Great. B.C. 73 - A.D. I. King of Judea.

Herodotus. 484?-408? B.C. Greek historian.

Herrick, Robert. 1591-1674. English divine and poet.

Itesperides, or Poems Human and Divine.

Herschel, Sir John Frederick William. 1790-1871. English astronomer and philosopher.

Herschel, Sir William. 1738-1822. Father of preceding. German astronomer. Born in Hanover, but removed to England at 21; discovered Uranus.

Hesiod. Fl. 800 B.C. Greek poet. Works and Days. Hezekiah. 750-698 B.C. King of Judah.

Hicks, Elias. 1748-1830. American Quaker preacher.

Hildreth, Richard. 1807-1865. Am. journalist and historian.
Hill, Sir Rowland. 1795-1879. Author of the English penny post system.

Hipparchus. Fl. 150 B.C. Bithynian astronomer.

Hippocrates. The Father of Medicine. 460-360? B.C. Greek

Hoar, George Frisbie. 1826-.... Am. lawyer and statesman.
 Hobart, Augustus Charles. Hobart Pasha. 1822-....
 Turkish naval commander, born in England.

Hobbes, Thomas. 1588-1679. English philosopher.

Hoche, Lazare. 1768-1797. French general.

Hoe, Richard March. 1812-1887. American inventor of printing presses.

Hofer, Andreas. 1767-1810. Tyrolese patriot; executed.

Hoffman, Charles Fenno. 1806-... American author.

Hogarth, William. 1697-1764. Eng. painter and engraver.

Hogg, James. The Ettrick Shepherd. 1772-1835. Scottish

Hohenlohe, Hohenstaufen, Hohenzollern. Princely families of Germany.

Holbein, Hans. The Younger. 1497-1554. German painter. The Dance of Death: Last Supper, etc.

Holland, Josiah Gilbert. 1819-1881. American author. Timothy Titcomb's Letters: The Bay Path, etc. Holmes, Oliver Wendell. 1809.... American physician,
author and poet. The Autocrat of the Breakfast-table; Elsie Venner;
The Guardian Angel; The Poet at the Breakfast-table; Poems, etc.
Holt, Sir John. 1642-1709. English judge.

Homer. Fl. 1000 B.C. Greek poet, about whose life scarcely anything is known. Regarded as the greatest of poets. Supposed to have been blind and poor. Some doubt his existence, maintaining that the *Iliad* and *Odyssey*, the two great epics ascribed to him, are collections of songs from various poets.

Honorius, Flavius. 384-423. Roman emperor.

Hood, Thomas. 1799-1845. English poet and humorist.

Song of the Shirt: Bridge of Sighs; Dream of Eugene Aram;
Whims and Oddities.

Hook, Theodore Edward. 1788-1841. English author.

Hooker, Joseph. 1819-1879. American general.

Hooker, Richard. 1553-1600. English theologian.

Hopkins, Johns. 1795-1873. American philanthropist.

Hopkinson, Francis. 1738-1791. American author; signed the Declaration of Independence. The Battle of the Kegs.

Hopkinson, Joseph. 1770-1842. Son of F. H. American lawyer; author of *Hail Columbia*.

Horace. (Quintus Horatius Flaccus.) 65-8 B.C. Latin poet. Odes; Epistles; Satires.

Hosmer, Harriet Goodhue. 1830-... American sculptor.

Houdin, Robert. 1805-1871. French conjurer.

Houdon, Jean Antoine. 1741-1828. French sculptor.

Houston, Sam. 1793-1863. American general and statesman. Governor of Tennessee, 1827-9; passed a number of years with the Cherokee Indians; commander-in-chief of the Texan forces in revolt against Mexico, and defeated and captured Santa Anna in 1836; elected president of Texas same year, and re-elected 1841; elected senator from Texas after its admission to the Union, in 1845, and governor in 1859.

Howard, Henry, Earl of Surrey. 1516-1547. Eng. poet.

Howard, John. 1726-1790. English philanthropist.

Howard, Oliver Otis. 1830-.... American general.

Howe, Elias. 1819-1867. American inventor.

Howe, Samuel Gridley. 1801-1876. Am. philanthropist.

Howells, William Dean. 1837-... American author.

Howitt, William. 1795-1879. English author.

Hoyle, Edmund. 1672-1769. English author. Games.

Huck, Evariste Regis, Abbé. 1813-1860. Fr. missionary.

Hudson, Henry (or Hendrik). ...-1611. Eng. navigator.

Hughes, Thomas. 1823-... English author and barrister.

Tom Brown's School-days.

Hugo, Victor Marie, Vicomte. 1802-1885. French poet, novelist and dramatist. Les Miserables; Notre Dame.

Hull, Isaac. 1775-1843. American commodore.

Hull, William. 1753-1825. American Revolutionary general.

Humbert IV. 1844-... King of Italy.

Humboldt, Friedrich Heinrich Alexander von, Baron. 1769-1859. German scientist. Cosmos: An Essay of a Physical Description of the Universe.

Hume, David. 1711-1776. Scottish historian and philosopher. History of England.

Hunt, James Henry Leigh. 1784-1859. English poet and author. The Secr.

Hunt, William Henry. 1790-1864. English painter in water-

Hunt, William Holman. 1826-... English painter.

Hunter, David. 1802-1886 American general.

Hunter, John. 1728-1793. Scottish surgeon.

Huss, John. 1373-1415. Bohemian reformer. Burned at the stake by order of Emperor Sigismund.

Huxley, Thomas Henry. 1825-... Eng. scientist. *Physiology*. Hyacinthe, Père. See *Loyson*.

Hyder-Ali. 1718-1782. Hindoo prince.

Hypatia. Fl. 500. Female philosopher at Alexandria.

BERVILLE, Pierre le Moyne d', Sieur. 1661-1706.
Canadian military and naval commander.

Ibrahim Pasha. 1789-1848. Viceroy of Egypt. Ibrahim Bey. 1735?-1816. Mameluke chief.

Ignatieff, Nicholas Pavlovitch. 1832-... Russian general and diplomatist.

Ignatius, Saint. *Theophorus*.-107. Bishop of Antioch. Ignatius, Saint. 799-877. Patriarch of Constantinople.

Ignatius de Loyola, Saint. See Loyola. Inchbald, Elizabeth, Mrs. 1753-1821. English authoress

Ingelow, Jean. 1830-... English poetess and novelist.

Ingersoll, Jared. 1749–1822. American lawyer. Ingersoll, Robert G. 1833–... Am. lawyer, author and lecturer.

Ingres, Jean A. D. 1781-1867. French painter.

Inman, Henry. 1801-1846. American portrait painter.

Inness, George. 1825-.... American landscape painter.

Innocent I. Pope, ruling from 402 to 417. During his reign Rome was sacked by Alaric. II., 1130-1143. III. (Lotharius.) Born is 1161, and chosen pope 1198. Put France under the ban, 1190, because Philip Augustus had repudiated his wife; promoted the fourth crusade, the result of which was the capture of Constantinople; deposed Otho, emperor of Germany, transferring the crown to Frederick of Sicily, subjected John of England to the papal see, compelling him to pay an annual tribute; crushed the Albigenses in 1214, and died two years later. IV. (Sinibaldo de Fieschi), 1243-1254. V., assumed the pontificate in 1276, and died same year. VI., 1352-1362. VII., 1404-1406. VIII., 1484-1491. IX., 1591; died same year. X., 1644-1655. XI., 1670-1686. XII., 1592-1700. XIII., 1721-1724.

Iredell, James. 1751-1799. American jurist.

Irenæus, Saint. 140?-202? Bishop of Lyons; martyr.

Irene. 752?-803. Empress of Constantinople.

Irving, Edward. 1792-1834. Eloquent Scottish divine. Irving, John Henry Brodribb. 1838-.... English actor.

Irving, Washington. 1783-1859. American author. Born in New York city. Read law, travelled in Europe, and on his return was admitted to the bar, but devoted himself exclusively to literary pursuits. Knickerbocker's History of New York was published in 1809. In 1815 he sailed for Europe, remaining there a number of years and becoming an intimate friend of Walter Scott. About this time Irving lost all his property by the failure of his brother in New York, in whose business he was a silent partner. The Sketch-Book was written in England and appeared in 1818. Secretary of legation at London, 1829; minister to Spain, 1842-6. Bracebridge Hall: Tales of a Traveller; Conquest of Granada; Life of Washington: Columbus; Wolfert's Roost, etc.

Isabella I. The Catholic. 1451-1504. Queen of Castile. Wife of Ferdinand of Aragon; patroness of Columbus. II. (Maria Isabel Luisa), 1830-... Ex-Queen of Spain.

Isabelle of France. 1292-1358. Queen of England, wife of Edward II., whom her adherents deposed, and with whose assassination she is charged. Her son, Edward III., ascended the throne and ordered her arrest, and she died after twenty years' incarceration.

Isaiah. Fl. 740 B.C. Hebrew prophet.

Iturbide, Don Augustin de. 1790-1824. Emperor of Mexico.

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Ivan III. (Vasilievitch). 1438-1505. Czar of Russia. IV. (Vasilievitch), The Terrible, 1520-1584.

ACKSON, Andrew. 1767-1845. American general and statesman; seventh president. Born in South Carolina; son of an Irishman; received but little education; served against the British in 178: began the practice of law at Nashville, 1788; Congress, 1796; U. S. Senate, 1797; judge Tennessee Supreme Court, 1798-1804; fought several duels, killing Chas, Dickinson in 1806; defeated the Creek Indians, 1814, and was commissioned brigadier-general; defeated the British at New Orleans, 1815; successfully carried on war against the Seminoles, 1817-18; Senate, 1823, and nominated for the presidency, the opposing candidates being Clay, J. Q. Adams and W. H. Crawford. Although Jackson had the highest number of votes, he did not have the necessary majority, and Adams was elected by the House of Representatives. Clay's advocacy of Adams in this contest caused a bitter enmity between that gentleman and Jackson. Jackson was elected to the presidency, however, in 1828. He was the first president to remove public officers on account of their politics. Re-elected in 1832. In that year, the convention of South Carolina having declared the tariff laws of 1828 null and void, Jackson issued a proclamation declaring his intention to check by force of arms all movements tending to disunion.

Jackson, Thomas Jonathan. Stonewall. 1824-1863. Confederate general, native of Virginia Defeated Gen. Banks at Cedar Mountain, and captured Harper's Ferry with 10,000 prisoners, 1862. Killed by a company of his own men, mistaking him and his staff for Federal cavalry.

Jacquard, Joseph Marie. 1752–1834. French inventor. Jamblichus. Fl. 320. Syrian Neo-Platonic philosopher.

James I. 1566-1625 King of England (VI. of Scotland).
Executed Raleigh. A translation of the Bible was made under his direction. II., 1633-1701. (VII. of Scotland.) Deposed by revolution.

James I. 1394-1431. King of Scotland. Assassinated. II., 1430-1460. III., 1453-1488. IV., 1473-1513; defeated and slain at Flodden. V., 1512-1542. VI. (I. of England). VII. (II. of England).

James, Henry, Jr. 1843-... American novelist.

Jameson, Robert. 1774-1854. Scottish naturalist.

Janauschek, Fanny. 1830-.... Bohemian tragedienne.

Jansen, Cornelis. 1585-1638. Dutch theologian; founder of the Jansenists.

Januarius, Saint. 272-305. Patron saint of Naples.

Jasper, William. 1750-1779. Brave American soldier.

Jay, John. 1745-1829. Am. statesman; first chief justice.

Jeanne d'Albret. 1528-1572. Queen of Navarre.

Jean Paul. See Richter.

Jefferson, Joseph. 1829-.... American actor.

Jefferson, Thomas. 1743-1826. American statesman; third president. Born in Virginia; admitted to the bar, 1767; elected to Virginia House of Burgesses, 1769; Continental Congress, 1775; drafted the Declaration of Independence; 30vernor of Virginia, 1779-81; minister plenipotentiary, 1784, to negotiate treaties with European powers; minister at Paris, 1785-9; secretary of state, 1789-93; elected vice-president 1796, and president in 1800, holding that office from 1801 to 1800.

Jeffrey, Francis. 1773-1850. Scottish critic and judge.

Jeffreys, George, Lord. 1650-1689. Infamous British judge; lord high chancellor under James II.; died in the Tower.

Jenkins, Edward. 1838-... Eng author. Ginx's Baby.

Jenner, Edward. 1749-1823. English physician; introduced vaccination.

Jenner, Sir William. 1815-.... English physician and

Jerome, Saint. 340?-420. Latin father of the church.

Jerome of Prague. 1378-1416. Bohemian religious reformer; follower of Huss. Burned at the stake.

Jerrold, Douglas William. 1803-1857. English humorist and satirical writer. Mrs. Caudle's Curtain Lectures; Chronicles of Clovernook.

Jervis, John, Earl of St. Vincent. 1734-1823. Eng. admiral. Joan of Arc. (Jeanne d'Arc.) The Maid of Orleans. 1411?-1431. French heroine. Born in Lorraine, of an humble peasant family. Believing herself commissioned by Heaven to liberate France, and convincing Charles VII. of her divine authority, she was given command of a considerable force, and by the victories she gained enabled Charles to be crowned at Rheims. Although desirous of returning home and resuming her former humble peasant life, she was induced to retain her command in the army. 3he was captured in 1430, by the Burgundians, and delivered to the English. Charged with sorcery, she was burned at the stake after a mock trial.

Joel. Fl. 775 B.C. Hebrew prophet.

John I. (Saint). Pope, ruling from 523-526. II., 533-535. III., 560-573. IV., 640-642. V., 685-687. VI., 701-705. VII., 705-707. VIII., 878-882. IX., 898-900. X., 915-928. XI., 931-936. XII., 956-964. XIII., 965-972. XIV., 984-985. XV., died in 985, only a few days after his accession. XVI., 986-996. XVII. (Rival of Gregory V. in 997.) XVIII., 1003. XIX. 1004-1009. XXI., 1024-1033. XXI., 1276. XXII., chosen 1316; deposed 1327; died 1334. XXIII., chosen in 1410. deposed 1414.

John. 1166-1216. King of England; granted Magna Charta. John II. The Good. 1319-1364. King of France.

John II. (Casimir V.) 1609-1672. King of Poland. III. (Sobieski), 1625-1696.

John I. The Great. 1357-1433. King of Portugal.

John. 1801-1873. King of Saxony.

John of Austria, Don. 1547?—1578. Spanish general. John of Gaunt (Ghent). 1340—1399. Duke of Lancaster.

Son of Edward III.

John the Baptist. B.C. 5-A.D. 28. Prophet. John the Evangelist. (St. John.)-100? Apostle.

Johnson. Andrew. 1808-1875. American statesman; seventeenth president. Born in N.C.; learned the trade of a tailor in Tenn.; Congress, 1843-53; governor, 1853-7; senator, 1857; military governor, 1863e; elected vice-president in 1864, and succeeded to the presidency on the death of Lincoln, 1865. Johnson became involved in a bitter quarrel with the leaders of the Republican party, and was impeached in 1868, but acquitted, although thirty-five senators voted or conviction to only nineteen against, a two-thirds majority being necessary. He was subsequently elected to he Senate from Tennessee as a Democrat.

Johnson, Reverdy. 1796-1876. American statesman.

Johnson, Richard Mentor. 1780-1850. Ninth vice-president of the United States.

Johnson, Samuel. 1709-1784. Eng. writer and lexicographer. Johnston, Albert Sydney. 1803-1862. Confederate general. Johnston, Joseph Eccleston. 1807-.... Confederate general. Joliet, Louis. 1645-1700? Fr. explorer of the Mississippi.

Jomini, Henri, Baron. 1770-1869. Swiss military writer.

Jonah. Fl. 800 B.C. Hebrew prophet.

Jones, Inigo. 1572-1652. English architect.

Jones, John Paul. 1747-1792. American Revolutionary naval commander; born in Scotland. Captured the Serapis.

Jones, Sir William. 1746-1794. English orientalist.

Jonson, Ben. 1574-1637. English poet and dramatist. Too poor to graduate at Cambridge, he became a mason, and afterward served as a soldier in Flanders. Returned to England and Joined a company of actors, but killed one of them in a duel and barely escaped death. Every Man in his Humor, his first drama, appeared in 1598. Appointed

Catiline's Conspiracy. Joseffy, Raffaele, 1852-.... Hungarian pianist. Joseph I. 1676-1711. Emperor of Germany. II., 1741-1790; abolished feudal serfdom. Josephine. (Marie Josephe Rose Tascher de la Pagerie.) 1763-1814. Empress of France; wife of Napoleon Bonaparte. Josephus, Flavius. 37?-95? Jewish historian. Joshua. 1537-1427 B.C. Hebrew leader. Jovian. 331-364. Roman emperor. Juarez, Benito Pablo. 1806-1872. Mexican Aztec statesman. Judas Maccabæus.-160 B.C. Hebrew leader. Judson, Adoniram. 1788-1850. Am. Baptist missionary. Julian. The Apostate. 331-363. Roman emperor. Julius I. Pope, 336-352. II., 1503-1513. III., 1550-1555. Junot, Andoche, Duc d'Abrantes. 1771-1813. Fr. general. Justin. The Martyr. 103-165? Church father in Palestine.

poet-laureate by James I. Died in poverty. Sejanus; The Alchemist;

ALAKAUA, David. 1836-.... King of Hawaii.

Justin I. 450-527. Byzantine emperor. II.,-578.

Juvenalis, Decimus Junius. 40?-125? Latin poet.

Justinian I. The Great. 482?-565. Byzantine emperor.

Kamehameha IV. 1834-1863. King of Hawaii. Kames, Henry Home, Lord. 1696-1782. Scottish judge and writer. Elements of Criticism.

Kane, Elisha Kert. 1820-1857. American Arctic explorer. Kant, Immanuel. 1724-1804. German metaphysician; founder of the transcendental school of philosophy. Critique of Pure Reason.

Kean, Edmund. 1787-1833. English tragedian. Kearney, Philip. 1815-1862. American general.

Keats, John. 1795-1821. English poet. Eve of St. Agnes. Keble, John. 1792-1866. Eng. divine. The Christian Year.

Keene, Laura. 1820-1873. American actress.

Kellermann, François Christophe de. 1735-1820. Fr. general.

Kellogg, Clara Louise. 1842-... American vocalist. Kemble, Charles. 1775-1854. Brother of J. P. K. Eng. actor.

Kemble, Frances Anne. 1809-... English actress.

Kemble, John Philip. 1757-1823. English tragedian. Kempis, Thomas à. 1380-1471. German ascetic writer.

Imitation of Christ.

Kent, James. 1763-1847. American jurist. Commentaries. Kepler, Johann. 1571-1630. German astronomer.

Key, Francis Scot. 1776-1843. American poet; author of The Star-spangled Banner.

Khosru I.-579. King of Persia. II.,-628. Kidd, William. 1650-1701. American pirate; executed. Kilpatrick, Hugh Judson. 1836-1881. American general. King, Rufus. 1755-1827. American statesman.

King, William Rufus. 1786-1853 American statesman. Kingsley, Charles. 1819-1875. English divine and author.

Kitto, John. 1804–1854. English Biblical scholar. Kleber, Jean Baptiste. 1754-1800. French general.

Klopstock, Friedrich Gottlieb. 1724-1803. German poet.

Kneller, Sir Godfrey. 1648-1723. English portrait painter. Knowles, James Sheridan. 1784-1862. English dramatist and actor; subsequently became a Baptist minister. The Hunchback; Virginius.

Knox, Henry. 1750-1806. American general and statesman. Knox, John. 1505-1572. Leader of the Scot. reformation. Koerner, Karl Theodor. 1791-1813. German soldier-poet.

Kosciusko, Thaddeus. 1746?-1817. Polish patriot and general; commanded the Polish insurgent army; bravely defended Warsaw, but was defeated.

Kossuth, Louis. 1802-.... Hungarian patriot, orator and statesman. Leading spirit in the insurrection of 1848-49.

Kotzebue, August F. F. von. 1761-1819. German dramatist.

ABLACHE, Luigi. 1794-1858. Italian singer. His voice was of phenomenal range and unusual sweetness.

La Chaise d'Aix, François. Père la Chaise. 1524-1700. French Jesuit.

Lactantius. The Christian Cicero. 260?-325. Latin father of the church. Institutiones Divina.

La Fayette, Marie Jean Paul Roch Yves Gilbert Motier de, Marquis. 1757-1834. French general and patriot. Came to America in 1777 to aid the Americans in their struggle for independence, and was commissioned major-general; fought at Brandywine, where he was wounded, and in numerous other engagements; visited France and obtained supplies and munitions, returning in 1779; commanded the advance guard at Yorkstown, 1781; returned again to France; chosen commandant of the French National Guard in 1789; visited America in 1824, and was enthusiastically received; took a prominent part in the revolution of 1830.

La Fontaine, Jean de. 1621-1694. Fr. poet and fabulist.

Lagrange, Joseph Louis. 1736-1813. Fr. mathematician. Lamartine, Alphonse de. 1792-1869. Fr. poet and statesman. Lamb, Charles. 1775-1834. Eng. essayist. Essays of Elia.

Lambert, Daniel. 1769-1809. English giant.

Lambert, John. 1621-1694. Eng. Parliamentary general. Lamotte-Fouque, Friedrich Heinrich Karl de, Baron. 1777-

1843. German novelist and poet. Undine.

Landon, Letitia E. 1802-1838. L. E. L. English authoress. Romance and Reality.

Landor, Walter Savage. 1775-1864. English author. Imaginary Conversations.

Landseer, Sir Edwin. 1802-1873. English animal painter. Langlande (or Longland), Robert. Fl. 1360. English monk and poet. Vision of Piers Plowman.

Langton, Stephen. ...-1228. English prelate.

Lannes, Jean, Duke of Montebello. 1769-1809. French marshal.

Lansdowne, William Petty, Marquis of. 1737-1805. English statesman.

Laplace, Pierre Simon, Marquis. 1749-1827. French astronomer and mathematician.

La Rochefoucauld, François de, Duke. 1613-1680. French moralist and statesman.

La Salle, Jean Baptiste. 1651-1719. Founder of the Christian Brothers.

La Salle, Robert Cavelier de. 1635?-1687. Fr. explorer.

Lasker, Eduard. 1829-1884. German statesman.

Latimer, Hugh. 1480-1555. English reformer; burned.

Latour d'Auvergne, Théophile Malo Corret de. 1743-1800. French officer, called by Napoleon "The First Grenadier of France."

Lauderdale, John Maitland, Duke of. 1616-1682. English cabal minister.

Laurens, Henry. 1724-1792. American statesman.

Lavater, Johann Caspar. 1741-1801. Swiss physiognomist.

Lavoisier, Antoine Laurent. 1743-1794. French chemist. Law, John. 1671-1729. Scottish financier in France; promoted the "South Sea Bubble."

Lawrence, Amos. 1786-1852. American philanthropist.

Lawrence, James. 1781-1813. American naval hero; commanded the Chesapeake and engaged the British frigate Shannon off Boston. He was killed in the action, and his last words were: "Don't give up the ship."

Lawrence, Sir Thomas. 1769-1830. English painter.

Lawrence, Saint. ...-258. Roman martyr.

Layard, Austen Henry. 1817-.... English orientalist.

Lebrun, Anne Charles, Duke of Piacenza. 1775-1859. French general.

Lebrun, Charles. 1619-1690. French painter.

Lebrun, Charles François, Duke of Piacenza. 1739-1824. French statesman.

Lecky, William Edward Hartpole. 1838-... Eng. author. Lecouvreur, Adrienne. 1690-1730. French actress.

Ledru-Rollin, Alexandre Auguste. 1808-1874. Fr. socialist. Ledyard, John. 1751-1788. American traveller.

Lee, Arthur. 1740-1792. American statesman. Brother of R. H. and F. L. Lee.

Lee, Charles. 1775-1782. Am. general; native of Wales.

Lee, Francis Lightfoot. 1734-1797. American patriot.

Lee, Henry. Light-Horse Harry. 1756-1818. American general and statesman. Governor of Virginia.

Lee, Richard Henry. 1732-1794. Am. orator and patriot.

Lee, Robert Edmund. 1806-1870. American general; commander-in-chief of the Confederate army. Son of Henry Lee. Born in Virginia; graduate of West Point; chief engineer of Gen. Scott's army in Mexico: Consederate brigadier-general 1861, and appointed to the chief command in 1862. Surrendered at Appomattox, April 9, 1865. Subsequently chosen president of Washington College, at Lexington, Va., where he died.

Leech, John. 1816-1864. English caricaturist.

Lefebvre, François Joseph, Duke of Dantzig. 1755-1820. French general.

Legare, Hugh Swinton. 1797-1843. American statesman. Leibnitz, Gottfried Wilhelm von, Baron. 1646-1716. German philosopher and mathematician.

Leicester, Robert Dudley, Earl of. 1532?-1588. Favorite of Queen Elizabeth.

Leidy, Joseph. 1823-... American naturalist.

L'Enclos, Ninon de. 1616-1706. French beauty.

Leo I. 400?-474. Byzantine emperor. III., 680?-741. V.,-820. VI., 865?-911.

Leo I. (Saint). The Great. Pope, ruling from 440 to 461. II., 682-634. III. (Saint), 795-816. IV., 847-855. V., 903; reigned only two months. VI., 928-929. VII., 937-939. VIII., 963-965. 1X., 1049-1054. X. (Giovanni de' Medici), 1513-1521. XI., 1605; died twenty-four days after his accession. XII., 1823-1829. XIII. (Gioachimo Pecci.) Born at Carpineto, in the Papal States, 1810, the son of Count Ludovico Pecci; ordained a priest in 1837, and created Archbishop of Damietta in 1843; nuncio to Belgium three years; cardinal, 1853; cardinal camerlengo, 1877; elected to the papacy, to succeed Pius IX., February 20, 1878.

Leonidas. ...-480 B.C. King of Sparta; leader of the brave three hundred at Thermopylæ.

Leopold I. The Great. 1640-1705. Emperor of Germany.

Leopold I. 1790-1865. King of Belgium. II., 1835-....

Lerdo de Tejada, Sebastian. 1825-... President of Mexico.

Le Sage, Alain René. 1668-1747. Fr. novelist. Gil Blas. Leslie, Alexander, Earl of Leven.-1661. Scot. general. Lesseps, Ferdinand de, Viscount. 1805-.... French engineer and diplomatist. Planned the Suez canal, and the inter-oceanic canal across Panama.

Lessing, Gotthold Ephraim. 1729-1781. German author. Leutze, Emanuel. 1816-1868. German historical painter.

Lever, Charles James. 1806-1872. Irish novelist. Charles O'Malley; Tom Burke of Ours; Harry Lorrequer,

Leverrier, Urbain J. J. 1811-1877. French astronomer.

Lewes, George Henry. 1817-1878. English author; hus-band of "George Eliot." Biographical History of Philosophy.

Lewis, Matthew Gregory. 1775-1818. English novelist. Lewis, Meriwether. 1774-1809. American explorer.

Leyden, Lucas van. 1494-1533. Dutch painter.

Lieber, Francis. 1800-1872. German historical writer.

Liebig, Justus von, Baron. 1803-1873. German chemist.

Lincoln, Abraham. 1809-1865. Sixteenth president of the United States. Born in Kentucky; removed to Indiana when eight years old; captain in the Black Hawk war, 1832; elected to the Illinois legislature, 1834; admitted to the bar, 1836, and removed to Springfield, Ill.; elected to Congress in 1846; Republican candidate for U.S. senator in 1854, his opponent being Stephen A. Douglas; nominated for the presidency and elected, 1860; re-elected 1864, but assassinated April 14, 1865, by John Wilkes Booth. His death was universally deplored, for his wise administration of affairs during the civil war had won for him the regard

of both factions of the bloody controversy.

Lincoln, Benjamin. 1733-1810. American general. Lind, Jenny. (Mrs. Goldschmidt.) 1821-1887. Swedish vocalist.

Linnæus, Charles. 1707-1778. Swedish botanist.

Lippi, Filippo. 1412-1469. Italian painter.

Liszt, Franz, Abbé. 1811-1885. Hungarian pianist.

Littleton (or Lyttleton), Sir Thomas. 1420?-1481. English jurist. Tenures.

Liverpool, Robert B. J., Earl of. 1770-1828. Eng. statesman. Livingston, Edward. 1764-1836. American jurist.

Livingstone, David. 1817-1873. Scottish explorer in Africa. Narrative of an Expedition to the Zambesi.

Livy. (Titus Livius.) 59 B.C.-17 A.D. Roman historian. Locke, John. 1632-1704. English philosopher. Essay on the Human Understanding.

Lockhart, John Gibson. 1794-1854. Scottish author.

Logan. Tah-gah-jute. 1725?-1780. American Indian chief. Logan, Benjamin. 1742?-1862. Kentucky pioneer.

Logan, John Alexander. 1826-1887. American general and statesman.

Lola Montez. 1820-1861. Creole ballet dancer.

Long, Roger. 1680?-1770. English astronomer.

Longfellow, Henry Wadsworth. 1807-1882. American poet. Born in Portland, Me.; graduated in 1825 at Bowdoin College, at which institution he took the chair of modern languages after travelling four years in Europe; held the same position at Harvard 1836-54. Hyperion; Voices of the Night; The Spanish Student; Evangeline; Song of Hiawatha; Miles Standish; Tales of a Wayside Inn, etc.

Longinus. Fl. 3d century. Greek philosopher.

Longstreet, James. 1821-.... Confederate general.

Lorne, John George Edward Henry Sutherland Campbell, Marquis of. 1845-.... Governor-general of Canada.

Lorraine, Charles IV., Duke of. 1604-1679. German general. V., 1643-1690.

Lossing, Benson John. 1813-... American historian.

Louis I. Le Debonnair. 778-840. Emperor of the West and king of France; divided the empire among his sons. VI., The Fat, 1078?-1137. King of France. IX. (Saint), 1215-1270; led a large army against the Saracens in 1248; defeated and taken prisoner in Egypt, but effected his ransom; led another crusade in 1270, but died the same year near Tunis. He was a wise ruler, and noted for many virtues. XI., 1423-1483; established post-offices. XII., 1462-1515. XIII., 1601-1643. XIV., Le Grand, 1638-1715. ("I am the State.") XV., 1710-1774. XVI., 1754-1793; guillotined. XVII. (Dauphin), 1785-1795. XVIII., Monsieur, 1755-1824.

Louis I. 1786-1868. King of Bavaria.

Louis IV. The Bavarian. 1285?-1345. Ger. emperor.

Louis Philippe. 1773-1850. "The citizen king" of France; abdicated 1848.

Louvois, François Michel Letellier de, Marquis. 1641-1691. French statesman; caused revocation of the Edict of Nantes.

Lover, Samuel. 1797-1868. Irish novelist. Handy Andy; Rory O'Moore, etc.

Lowell, James Russell. 1819-... American poet and critic; minister to Spain and to England. The Bigelow Papers; Under the Willows: The Vision of Sir Launfal; Commemoration Odes; Fable for Critics : Among my Books ; My Study Windows, etc.

Lowell, John. 1799-1836. American statesman.

Loyola, Ignatius de. Saint Ignatius. 1491-1566. Spanish founder of the Society of Jesus, or Jesuits. Entered the army at an early age; crippled by a wound in 1520, he turned his attention to religion; made a pilgrimage to Jerusalem in 1523, and subsequently studied at the University of Paris, where he met Francis Xavier and James Lainez, in conjunction with whom, in 1543, he formed the society which has since become so celebrated.

Loyson, Charles. Père Hyacinthe. 1827-... reformer and ex-Carmelite.

Lubbock, Sir John. 1834-... English antiquarian.

Lucanus, Marcus Annæus. 38-65. Roman epic poet.

Lucian. 120?-... Greek satirist.

Lucilius, Caius. 148?-100? B.C. Roman satiric poet.

Lucretius. (Titus Lucretius Carus.) 95-... B.C. Latin poet. Lucullus, Lucius Licinius. 110-57 B.C. Roman general. Luther, Martin. 1483-1546. Leader of the Protestant Reformation. Born at Eisleben, in Germany, the son of a miner; edu-

cated at the University of Erfurt, and in 1505 entered the Augustine convent at that place; ordained a priest, 1507; became professor of philosophy at Wittenberg, 1508; visited Rome, 1510; denounced the sale of indulgences, 1517, and became involved in numerous controversies; cited to appear before Leo X., he refused to comply; burned the papal bull containing an order to destroy certain of his works, and denied the authority of the pope; excommunicated; enjoyed the support of the Elector of Saxony; attended the Diet of Worms, convened for his trial, in 1521; laid aside his monastic dress in 1524, and married Catherine von Bora, an ex-nun, in 1525; enjoyed, during the latter part of his life, the greatest distinction from the princes of Germany. Luther completed, in 1522, his translation of the New Testament, and in 1534 that of the Old Testament. The central point of his theology is justification by faith.

Luxembourg, François Henri de Montmorenci de. 1628-1695. Marshal of France.

Lycurgus. Fl. 850 B.C. Spartan law-giver.

Lyell, Sir George. 1797-1875. Scottish geologist.

Lyndhurst, John Singleton Copley, Lord. 1772-1863. Lord chancellor of England; born in Boston, Mass.

Lyon, Nathaniel. 1819-1861. American general. Born in Connecticut; graduate of West Point; appointed commander of the Department of the Missouri, 1861; killed at the battle of Wilson's Creek.

Lysander.-395 B.C. Spartan general.

Lysias. 458-378 B.C. Athenian orator.

Lysimachus. 355?-281 B.C. King of Thrace.

Lysippus. Fl. 330 B.C. Greek sculptor.

Lytton. See Bulwer.

ACAULAY, Thomas Babington, Baron. 1800-1859. English historian, critic and essayist. History of England: Essays; Lays of Ancient Rome.

Macbeth.-1056? King of Scotland.

McCarthy, Justin. 1830-.... Irish writer and Home Rule member of Parliament. Came to America in 1868 and visited thirty-five of the United States. My Enemy's Daughter; A Fair Saxon; History of Our Own Times, etc.

Macchiavelli, Nicolo di Bernardo dei. 1469-1527. Italian statesman and author. Among his numerous writings are his History of Florence and The Prince, the latter of which (not intended for publication, but for the private perusal of the Medici) has rendered the name Macchiavelli the synonym of perfidy.

McClellan, George Brinton. 1826-1885. American general. Born in Philadelphia; graduate of West Point; served in the Mexican war, and in 1855 served on a commission sent by the government to make observations on the Crimean war; became chief engineer of the Illinois Central railroad in 1857; re-entered the army in 1861, taking command of the Federal troops in Western Virginia, and gained the victories of Rich Mountain and Cheat River; made commander of the army at Washington, and in November, 1861, became commander of the armies of the United States; gained a victory at Fair Oaks, 1862, but was forced to relinquish the plan of reducing Richmond; superseded by Gen. Pope, but recalled, and defeated the Confederates under Lee at Antietam: relieved of command about six weeks later; Democratic candidate for the presidency in 1864, and afterward elected governor of New Jersey.

McCosh, James. 1811-... Scottish theologian.

Macdonald, Étienne Jacques Joseph Alexandre, Duke of Tarentum. 1765-1840. Marshal of France.

Macdonald, Flora. 1720-1790. Scottish heroine; saved the life of "The Young Pretender."

Macdonald, George. 1824-... Scottish poet and novelist. David Elginbrod; The Portent; Wilfred Cumbermede; Malcolm; Unspoken Sermons; The Miracles of our Lord, etc.

Macdonald, Sir John A. 1814-.... Canadian statesman. McCloskey, John. 1810-1885. First American cardinal.

McDowell, Irvin. 1818-1885. American general.

MacMahon, Marie Edme Patrice Maurice de, Duc de Magenta. 1808-.... Marshal of France and president of the French republic.

Macpherson, James. 1738-1796. Scottish poet.

MacPherson, James Birdseye. 1828-1864. Am. general.

Macready, William Charles. 1793-1873. Eng. tragedian.

Madison, James. 1751-1836. Fourth president of the United States. Born in Virginia; member of the Virginia legislature and delegate to the convention of 1787; joint author with Jay and Hamilton of the Federalist; Congress, 1789-97; secretary of state, 1801-9, president,

Magellan, Fernando. 1470-1521. Portuguese navigator.

Mahmood I. 1696-1754. Sultan of Turkey.

Mahmood, Abool-Kasim-Yemeen-ed-Dowlah. 967-1030. Mohammedan conqueror; founder of the Gaznevide dynasty.

Mahomet. See Mohammed.

Maintenon, Françoise d'Aubigné de, Marquise. 1635-1719. Consort of Louis XIV.

Malibran, Maria Felicita (née Garcia). 1808-1836. French vocalist and actress.

Malthus, Thomas Robert. 1766-1834. English writer on political economy, and author of the " Malthusian theory."

Mandeville, Sir John. 1300-1372. English traveller.

Manfred. 1234-1266. King of Naples.

Manning, Henry Edward. 1808-... English Catholic prelate and author. United with the Roman Catholic church in 1851; archbishop of Westminster, 1865; cardinal, 1877.

Mansfeld, Ernst von, Count. 1585-1626. German general. Mansfield, William Murray, Earl of. 1704-1793. British jurist. Mantegna, Andrea. 1431-1506. Italian painter.

Manteuffel, Edwin Hans Carl von, Baron. 1809-1883. Prussian field-marshal.

Manuel I. Comnenus. 1120?-1180. Byzantine emperor. II. Palæologus, 1348-1425.

Manutius, Aldus. 1449?-1515. Venetian printer.

Manutius, Aldus. 1547-1597. Venetian printer and author. Marat, Jean Paul. 1744-1793. French Jacobin demagogue,

assassinated by Charlotte Corday. Marcellus, Marcus Claudius. 268?-208 B.C. Roman consul. Conquered Syracuse; killed in a skirmish with the Carthaginians.

Margaret. Semiramis of the North. 1353-1412. Queen of Norway, Sweden and Denmark.

Margaret of Anjou. 1429-1482. Queen of Henry VI. of England.

Margaret of Angouleme. 1492-1549. Queen of Navarre and author. Heptameron.

Margaret of Austria. 1480-1530. Regent of the Netherlands.

Margaret of Valois. 1553-1615. Queen of France. Margaret, Saint. 1046-1093. Queen of Scotland.

Margaret, Saint.-275. Virgin of Antioch; martyr.

Maria Christina. 1806-1878. Queen dowager of Spain.

Maria II. da Gloria. 1819-1853. Queen of Portugal.

Maria de' Medici. 1573-1642. Queen of France.

Maria Louisa. 1791-1847. Empress of France.

Maria Theresa. 1717-1780. Empress of Austria and Queen of Hungary and Bohemia.

Marie Antoinette. 1755-1793. Wife of Louis XVI. of France; guillotined.

Mario, Giuseppe, Marquis di Candia. 1810-1883. It. singer. Marion, Francis. 1732-1795. Am. Revolutionary general.

Mariotte, Edme. 1620-1684. French phycisist.

Marius, Caius. 157-36 B.C. Roman general and consul.

Marlborough, John Churchill, Duke of. 1650-1722. English commander. Commanded the English forces in the Netherlands, 1689; commanded in Ireland, 1690; accused of treason, deposed and confined in the Tower, 1692; reinstated 1696; commanded the allied armies in Holland, 1702; won the battle of Blenheim, 1704; Ramilles, 1706; Oudenarde, 1708; Malplaquet, 1709.

Marlowe, Christopher. 1564-1593. English dramatist.

Marmont, Auguste Frederic Louis Viesse de, Duke of Ragusa. 1774-1852. French marshal.

Marquette, Jacques. 1637-1675. French missionary and discoverer: explored the Mississippi river.

Marryatt, Frederic. 1792-1848. English novelist and naval officer. Midshipman Easy; Peter Simple, etc.

Marsh, George P. 1801-.... American philologist.

Marshall, John. 1755-1835. American jurist and statesman; chief justice of the United States.

Martialis, Marcus Valerius. 43-104. Latin poet.

Martel, Charles, Duke of Austrasia. The Hammer. 741. Conquered the Saracens in the great battle of Tours, or Poitiers,

Martineau, Harriet. 1802-1876. English writer.

Marx, Karl. 1818-1883. German socialist.

Mary I. Bloody Mary. 1516-1558. Queen of England. Married Philip II. of Spain; persecuted the Protestants. II., 1662-1694; wife of William III.

Mary Stuart. 1542-1587. Queen of Scots. Daughter of James V. and Mary of Guise; educated in France, where she was married to the Dauphin in 1558, who the following year ascended the French throne as Francis II., but died childless, 1560; invited to the throne of Scotland, and married her cousin, Lord Darnley; suppressed, 1565, a revolt of the Protestants instigated by Queen Elizabeth; joined, 1566, a league to extirpate heresy, and, wearying of the arrogance and dissoluteness of Lord Darnley, bestowed her confidence on David Rizzio, an Italian musician, whose murder was instigated the same year by Mary's jealous husband. Lord Darnley himself was killed in 1567, and Oueen Mary married the Earl of Bothwell the same year. Public sentiment in Scotland against her became so intense that she was compelled to take refuge in England, where she was finally beheaded on an unproven charge of conspiracy.

Masaniello. 1620-1647. Neapolitan insurgent leader.

Mason, James M. 1797-1871. American statesman.

Massasoit. 1580?-1661. Sachem of the Wannanoags.

Massena, André, Prince of Essling. 1758-1817. Fr. marshal. Massinger, Philip. 1584-1640. English dramatist.

Mather, Cotton. 1663-1728. American divine and writer,

notorious for his persecution of witchcraft. Mathew, Theobald. Father Mathew. 1790-1856. Irish Catholic priest, called "The Apostle of Temperance."

Maurice. 1521-1553. Elector of Saxony; German general and Protestant leader.

Maurice of Nassau. 1567-1625. Dutch warrior; Prince of Orange.

Maximilian I. 1459-1519. Emperor of Germany.

Maximilian. (Ferdinand Maximilian Joseph.) 1832-1867. Archduke of Austria, and emperor of Mexico. Executed by the Mexicans.

Mazarin, Giulio, Cardinal. 1602-1661. Fr. prime minister.

Mazeppa, Ivan Stepanovitch. 1644-1709. Polish nobleman, and hetman of the Cossacks. Hero of Byron's poem.

Mazzini, Giuseppe. 1807-1872. Italian patriot.

Meade, George Gordon. 1815-1872. American general; won the battle of Gettysburg.

Medici, Alessandro de'. 1510-1537. First duke of Florence; assassinated.

Medici, Cosimo de'. The Elder. 1389-1464. Chief of the Florentine republic.

Medici, Cosimo de'. The Great. 1519-1574. First grand duke of Tuscany.

Medici, Lorenzo de'. The Magnificent. 1448-1492. Prince of Florence; scholar, and patron of literature and art.

Mehemet Ali. 1769-1849. Viceroy of Egypt.

Meissonier, Jean Louis Ernest. 1812-... French painter.

Melanchthon, Philip. 1497-1560. German reformer; leader of the Reformation after Luther's death. The Augsburg Confession. Melikoff, Loris. 1824-1888. Russian general.

Melville, Andrew. 1545-1622. Scottish religious reformer. Mendelssohn-Bartholdy, Felix. 1809-1847. German composer. The Midsummer Night's Dream and The Wedding of Camache, 1827; St. Paul, 1836; Elijah, 1846. Songs without Words.

Menno, Simonis. 1496-1561. Frieslandic founder of the Mennonites.

Mercadante, Saverio. 1797-1870. Italian composer.

Merimee, Prosper. 1803-1870. French novelist.

Mesmer, Friedrich Anton. 1733-1815. German discoverer of "mesmerism."

Metellus, Quintus Cæcilius. Fl. 100 B.C. Roman general. Defeated Jugurtha, 109 B.C.

Metternich, Clemens Wenzel Nepomuk Lothar von. 1775-1850. Austrian statesman.

Meyerbeer, Giacomo. (Jakob Meyer-Beer.) 1794-1864. German composer. Robert le Diable; Semiramide; Les Huguenots; L'Étoile du Nord.

Michael Angelo. (Michelangelo Buonarotti.) 1474-1563. Italian painter, sculptor, architect and poet. Patronized by Lorenzo the Magnificent; invited to Rome by Pope Julius II., where he designed the church of St. Peter; became architect of that magnificent structure in 1546, and devoted the rest of his life almost exclusively to its completion. Among his productions are the frescoes in the Sistine chapel, including The Last Judgment; The Holy Family; a gigantic statue of David, and a marble group called Pieta, representing the Virgin as weeping over the dead body of the Savior.

Mifflin, Thomas. 1744-1800. American patriot; president of the Continental Congress.

Mill, James. 1773-1830. Scottish nistorian and writer.

Mill, John Stuart. 1806-1873. English philosopher and political economist. The Principles of Political Economy.

Millais, John Everett. 1829-.... English painter.

Miller, Hugh. 1802-1856. Scottish geologist.

Miller, Joaquin. (Real name, Cincinnatus Hiner Miller.) 1841-... American poet. Born in Indiana, and emigrated to Oregon in boyhood. The One Fair Woman, a novel; Pacific Poems; Songs of the Sierras, etc.

Mills, Clark. 1815-1883. American sculptor.

Miltiades. Fl. 500 B.C. Athenian commander; gained the great victory of Marathon.

Milton, John. 1608-1674. English poet; educated at Cambridge; passed several years in travel; visited Galileo, and gained the friendship of many eminent personages; returning to England, he advocated the popular party, opposing prelacy and the established church; wrote many political and controversial works in prose; was appointed in 1648 Latin secretary of the Council of State; in 1654 he had become entirely blind. His Paradise Lost was completed in 1655, and sold for £10, half of which was not to be paid until after the sale of 1,300 copies. His sonnets are among the best in the language, and among his other works are Comus: Il Penseroso: Samson Agonistes; L'Allegro; Paradise Regained; Lycidas. Milton is justly considered one of the greatest poets of all time.

Minie, Claude Etienne. 1810-1879. French inventor.

Mirabeau, Honoré Gabriel de Riquetti de, Comte. 1749-1791.

French orator and statesman. Entered the army in 1776; exiled and imprisoned for debt; separating from his wife, he eloped with a young woman in 1776, for which offence he was condemned to death; escaped, however, with four years' imprisonment; led a wandering life for several years, engaging in numerous intrigues; sent to Berlin on a secret mission in 1786, and elected to the States-General in 1789, and later to the National Assembly, of which he became president in 1791. Mirabeau possessed remarkable powers of oratory, and was one of the chief promoters of the French Revolution.

Mitchel, Ormsby Macknight. 1810-1862. American general and astronomer. Captured Huntsville, 1862.

Mitchell, Donald Grant. Ik Marvel. 1822-... American author. Reveries of a Bachelor: My Farm at Edgewood, etc.

Mitford, Mary Russell. 1786-1855. American authoress.

Mitford, William. 1744-1827. English historian.

Mithridates VI. The Great. 132-63 B.C. King of Pontus.
Allied with Tigranes, king of Armenia, he defeated the Romans in several battles.

Mohammed, or Mahomet. 569-... Founder of the Moslem religion. Pretended, at the age of forty, to have received a revelation from Allah, and thenceforth devoted himself to the propagation of his new religion. Previous to this time he had been an idolater. His new faith, which included the unity of God, was rejected at Mecca, where a conspiracy was formed against him, but was warmly embraced in Medina, to which place the prophet fled in 622. From this flight, called the Hegira, the Mussulmans compute their time. After this event, Mohammed ceased to advocate liberty of conscience, but propagated the faith of Islam by the sword, gaining numerous victories, and spreading his religion over a large portion of Western Asia. The Koran was composed in separate chapters, as occasion required.

Mohammed II. The Victorious. 1430-1481. Turkish sultan. III., 1642-1692.

Moliere. (Jean Baptiste Poquelin.) 1622-1673. French dramatist and actor. Among his numerous comedies are The Misanthrope and The Hypocrite (Tartufe).

Moltke, Carl Bernhard Helmuth von, Count. 1800-.... Chief marshal of the German empire. Virtually commander-in-chief of the German armies in the Franco-German war, and designed the entire campaign.

Mommsen, Christian Matthias Theodor. 1817-.... German historian.

Monk, George, Duke of Albemarle. 1608-1670. English general; restored the monarchy.

Monmouth, James Scott, Duke of. 1649?-1685. Natural son of Charles II.; rebelled, but was defeated and executed.

Monroe, James. 1758-1831. Fifth president. Born in Virginia; captain in the war of 1812; studied law under Jefferson; Congress, 1783; opposed the constitution; governor of Virginia, 1799; envoy extraordinary to France, 1802; re-elected governor, 1811; appointed secretary of state same year by Madison; elected president, 1816, and re-elected 1820.

Montague, Lady Mary Wortley. 1690-1762. English authoress.

Montaigne, Michel Eyquem de. 1533-1592. French philosopher and essayist. Essays.

Montalembert, Charles Forbes de, Comte. 1810–1870. Fr. publicist; leader of the liberal Catholic party.

Montcalm, Louis J. de St. Véran, Marquis of. 1712-1759.
French commander in Canada.

Montesquieu, Charles de Secondat, Baron de. 1689-1755. French jurist and philosopher.

Montezuma II. 1480?-1520. Last Aztec emperor of Mexico.

Montfort, Simon de. 1150?-1218. Norman crusader.

Montfort, Simon de, Earl of Leicester. 1200?-1265. Son of preceding. Led the barons against Henry III.

Montgolfier, Jacques Etienne (1745-1799) and Joseph Michel (1740-1810). French mechanicians; invented air-balloon.

Montgomery, James. 1771-1854. Scottish poet.

Montgomery, Richard. 1736-1775. American general; killed at Ouebec.

Montgomery, Robert. 1807-1855. English poet.

Montmorenci, Anne de, Duc. 1493-1567. Fr. constable.

Montmorenci, Henri de, Duc. 1534-1614. Constable of

Montmorenci, Mathew de. 1175-1230. Constable of France.

Montrose, James Graham, Marquis of. 1612-1650. Scottish general. Executed.

Moody, Dwight Lyman. 1837-.... American evangelist.
Born at Northfield, Mass.

Moore, Sir John. 1761-1809. British general; fell at

Moore, Thomas. 1779-1852. Irish poet. Lalla Rookh; Irish Melodies: The Loves of the Angels, etc.

Morales, Luis. El Divino. 1509-1586. Spanish painter.
More, Hannah. 1745-1833. English authoress. Calebs in Search of a Wife.

More, Sir Thomas. 1480–1535. English statesman and philosopher; educated at Oxford; entered Parliament, 1504; produced History of Richard III., 1513; Utopia, 1516; became a great favorite of Henry VIII., who made him lord chancellor in 1530; being an ardent Catholic, he refused to sanction the divorce of Queen Catherine and resigned his office in 1532; imprisoned in 1534 for declining to take an oath acknowledging the validity of the king's marriage to Anne Boleyn, and executed the following year for denying the king's supremacy as head of the church.

Moreau, Jean Victor. 1763-1813. French general. Victor at Hochstadt and Hohenlinden; fell at Dresden.

Morelos, Jose Maria. 1780–1815. Mexican revolutionist.

Morgan, John Hunt. 1825–1863. Confederate cavalry officer and major-general. ("Morgan's raid.")

Mornay, Philippe de, Seigneur du Plessis-Marly. Du Plessis

Morriay. 1549-1623. French Protestant statesman.

Morris, George P. 1802-1864. American journalist and poet. Woodman, Spare That Tree.

Morris, Gouverneur. 1752-1816. American statesman.

Morris, Robert. 1734-1806. Am. statesman and financier.

Morris, William. 1834-... English poet.

Morse, Samuel Finley Breese. 1791-1872. Am. inventor of the magnetic telegraph; graduate of Yale College; studied painting in England, returning to America in 1832; constructed small recording electric telegraph in 1835; finally obtained aid from Congress in 1843, and constructed a line between Washington and Baltimore in 1844.

Mortimer, Roger, Earl of March. 1287?-1330. Favorite of Isabella of England; executed.

Morton, James Douglas, Earl of. 1530-1581. Regent of Scotland. Executed as accessory to Darnley's murder.

Morton (or Moreton), John. 1410-1500. English prelate. Morton, Oliver Perry. 1823-1877. American statesman.

Moscheles, Ignaz. 1794-1870. Hungarian pianist.

Moses. 1570-1450. Hebrew law-giver. Led the Israelites out of Egypt.

Motley, John Lothrop. 1814-1877. American diplomatist and historian. The Rise of the Dutch Republic; History of the United Netherlands.

Mott, Lucretia (née Coffin). 1793-.... Am. social reformer. Mott, Valentine. 1785-1865. American surgeon.

Moultrie, William. 1731-1805. Am. Revolutionary general.
Mozart, Johann Chrysostomus Wolfgang Amadeus. 1656-1791. German composer. Composed short pieces at the age of six, and at seven gave concerts in Paris and London. Distinguished for the universality of his genius. Don Giovanni: The Magic Flute: The Marriage of Figaro; Requiem.

Muhlenberg, Henry Melchior. 1711-1787. Founder of the German Lutheran church in America.

Muhlenberg, John Peter Gabriel. 1746–1807. Am. general.
 Mukhtar Pasha, Ghazi Ahmed. 1837-.... Turkish general and statesman.

Muller, Friedrich Maximilian (Max Müller). 1823-...

German scholar and writer in England. Chips from a German Werkshop.

Mulock, Dinah Maria. See Craik.

Munchausen, Hieronymus Karl Friedrich von, Baron. 1720-1797. German soldier and romancist.

Murzer, Thomas.-1526. German Anabaptist fanatic.

Murat, Joachim. 1771-1815. Fr. marshal and king of Italy.

Murillo Bartolomé Esteban. 1618-1682. Spanish pointer.

Murillo, Bartolomé Esteban. 1618-1682. Spanish painter. Excelled as a colorist, and regarded as the greatest of the Spanish school of painters. His virgin saints and beggar boys are famous.

Murray (or Moray), James Stuart, Earl of. 1533-1570. Regent of Scotland. Opponent of Mary Stuart. Assassinated.

Murray, Lindley. 1745-1826. American grammarian.

Musset, Louis Charles Alfred de. 1810-1857. French poet.

Nadir Shah. (Kouli Khan.) 1688-1747. King of Persia. Expelled the Afghans and dethroned the Shah; conquered part of India.

Nana-Sahib. 1824-.... Leader of Sepoy mutiny.

Napier, Sir Charles James. 1782-1853. Eng. general in India.

Napier, Sir Charles James. 1782–1853. Eng. general in India Napier, Sir Charles John. 1786–1860. British admiral.

Napier, John, Laird of Merchiston. 1550-1614. Scottish mathematician.

Napier, Sir William Francis Patrick. 1785-1860. British general and writer.

Napier of Magdala, Robert Cornelis Napier, Baron. 1810-1876. British general.

Napoleon. See Bonaparte.

Nash, Richard. Beau Nash. 1674-1761. English fop.

Nash, Thomas. 1564?–1600? English satirist and dramatist.
Neander, Johann August Wilhelm. 1789–1850. German theologian and historian. History of the Christian Religion.

Nebuchadnezzar.-561 B.C. Chaldean king of Babylon. Conquered Jerusalem, Tyre and Egypt.

Necker, Jacques. 1732-1804. French statesman and financier. Father of Mme. de Staël.

Neilson, Adelaide. 1853-1881. American actress.

Nelson, Horatio, Viscount. 1758–1805. The greatest of Britain's naval commanders. Entered the navy at 13; post-captain, 1779; rear admiral, 1797, his promotion having been earned by his share in the victory of St. Vincent; lost his right arm in an unsuccessful attack on Teneriffe; won the battle of the Nile in 1798, for which he was raised to the peerage as Baron Nelson of the Nile; became separated from his wife, owing to an infatuation with Lady Hamilton which lasted until his death; created a viscount for the victory of the Baltic, where, being second in command, he disobeyed the orders directing him to retreat; fell at Trafalgar, where his fleet gained a decisive victory over the French and Spanish.

Nepos, Cornelius. Fl. 5 B.C. Roman historian.

Neri, Filippo de, Saint. St. Philip Neri. 1515-1595. Italian founder of the order of "Priests of the Oratory."

Nerva, Marcus Cocceius. 32-98. Roman emperor, 76-98.
Nesselrode, Charles Robert von, Count. 1780-1862. Russian diplomatist; minister of foreign affairs for forty years.

Nestorius.-440? Syrian prelate; patriarch of Constantinople, and founder of the Nestorian schism.

Newman, John Henry, Cardinal. 1801-... English theologian. Graduated at Oxford; founded an ascetic community in 1842, over which he presided for three years; a recognized leader of the High Church party until 1845, when he became a Catholic; appointed rector of Catholic University at Dublin 1854, and made a cardinal by Pope Leo XIII. in 1879. A Grammar of Assent.

Newton, Sir Isaac. 1642-1727. English philosopher and mathematician. The son of a farmer; graduated at Cambridge 1665, about which time he invented the "method of fluxions," and discovered the attraction of gravitation; discovered, in 1668, that light is not homogeneous, but consists of rays of different refrangibility; published his Theory of Light and Color in 1675, and his greatest work, The Principia, in 1687.

Ney, Michel, Duke of Echlingen and Prince of the Moskwa. 1796-1815. French marshal; the son of a cooper; entered the army at 18 as a private, and was gradually promoted. Napoleon called him "the bravest of the brave," and his titles were conferred upon him for his victory at Echlingen in 1805, and his services at the battle of Borodino. Commanded the rear guard in the retreat from Moscow; defeated by Bernadotte, at Dennewitz, 1813; submitted to Louis XVIII. upon the abdication of Napoleon, against whom he was sent with an army in 1815, but united his army with that of his old commander; had five horses shot under him at Waterloo, where he fought with his usual valor; was captured soon after, and executed on a charge of treason.

Nicholas I. Pope, ruling from 858 to 867. II., 1059-1061. III., 1277-1280. IV., 1288-1292. V., 1447-1455.

Nicholas I. 1796-1855. Emperor of Russia; at war with Persia and Turkey; subdued Polish insurrection, 1831; engaged in Crimean war.

Nicholas, Saint. ...-340? Bishop of Myria.

Niebuhr, Barthold Georg. 1776–1831. German historian. Nicot, Jean. 1530–1600. Fr. scholar; introduced tobacco.

Nightingale, Florence. 1820-.... English philanthropist. Notes on Hospitals.

Nilsson, Christine. (Mme. Rouzaud.) 1843-.... Swedish vocaliet.

Noailles, Adrian M., Duke of. 1678-1766. French general. Nordenskjold, Adolf Erik. 1832-.... Swedish explorer.

Nordhoff, Charles. 1830-... Am. author and journalist. North, Christopher. See Wilson, John.

North, Frederick, Lord. 1732-1792. English statesman.

Northcote, Sir Stafford Henry. 1818-... Eng. statesman. Norton, Caroline Elizabeth Sarah (née Sheridan). 1808-1877. English authoress. Stuart of Dunleith.

Nostradamus. (Michel de Notredame.) 1503-1566. French astrologer. Centuries.

Nottingham, Heneage Finch, first Earl of. 1621-1682. English jurist and statesman.

Novalis. (Friedrich von Hardenberg.) 1772-1801. German author.

Novello, Vincent. 1771-1861. English composer.

Noyes, George Rapall. 1798-1868. American theologian. Noyes, John Humphrey. 1811-1886. American communist.

OATES, Titus. 1620-1705. English informer; contriver of the celebrated "Popish Plot."

Oberlin, Jean Frédéric. 1740-1816. French-German reformer and philanthropist.

O'Brien, William Smith. 1803-1864. Irish political agitator. Leader of "Young Ireland" party; banished for treason,

O'Connell, Daniel. 1775-1847. Irish patriot and orator. Advocated Catholic emancipation, but opposed resort to arms; elected to Parliament in 1828, but not allowed to take his seat until 1829, when the bill for Catholic emancipation was passed; gave up his large law practice and gave his entire attention to public duties; began advocating the repeal of the union in 1840, and was convicted in 1844 on a charge of treason, but the sentence, one year's imprisonment and £2,000 fine, was reversed by the House of Lords.

O'Conor, Charles. 1804-1884. American lawyer.

Occam, William of. The Invincible Doctor. 1280?-1347. English theologian.

Odoacer.-493. Gothic king of Italy; executed.

O'Donnell, Leopold, Count of Lucena, Duke of Tetuan. 1809-1867. Spanish general and statesman.

Oehlenschlager, Adam Gottlob. 1779-1850. Danish poet. Oersted, Hans Christian. 1777-1851. Danish natural philosopher; founder of the science of electro-magnetism.

Offenbach, Jacques. 1819-1880. German-French composer. La Belle Helène; Orphée aux Enfers; Bluebeard; La Grande Duchesse; La Jolie Parfumeuse, etc.

Oglesby, Richard J. 1824-... American statesman.

Oglethorpe, James Edward. 1698-1785. English general: colonized Georgia.

Oldcastle, Sir John, Lord Cobham. 1360-1407. English reformer; head of the Lollards; executed.

Oldfield, Anne. 1683-1730. English actress.

Oliphant, Margaret. 1818-....English novelist.

Ollendorff, Henri Godefroy. 1803-1865. German educator. Ollivier, Olivier Émile. 1825-... French statesman.

Omar I. 581-644. Arabian caliph. Conquered Jerusalem.

Omar Pasha. (Michael Lattas.) 1806-1871. Turkish com mander in the Crimean war; born in Croatia.

O'Meara, Barry Edward. 1780-1836. Irish physician and author. Napoleon in Exile.

Opie, Mrs. Amelia. 1769-1853. English authoress.

Orange, William, Prince of. The Silent. 1553-1584. Founder of the Dutch republic; leader of the insurrection which broke out when it was attempted to introduce the Inquisition into the Netherlands. Assassinated.

Origen. 186?-253. Greek theologian and preacher. Endeavored to harmonize the teachings of Christ and Plato; opposed the theory of eternal punishment.

Orleans, Louis Philippe Joseph, Duc d'. 1747-1793. Took the popular side on the assembling of the States-General, renounced his titles and assumed the name of Egalite (Equality). Voted for the death of his cousin, Louis XVI. Condemned by the revolutionary tribunal, and executed. His son, Louis Philippe, afterward became king of France.

Orleans, Philippe, Duc d'. 1674-1723. Regent of France.

Orloff, Alexis, Count. 1787-1861. Russian general.

Ormond, James Butler, Duke of. 1610-1688. Irish statesman; put down the Irish rebellion.

Orsini, Felice. 1819-1858. Italian conspirator; leader in the attempted assassination of Napoleon III., in 1858; executed.

Osceola. 1804-1838. Seminole chief.

Osman I. 1259-1326. Founder of Ottoman dynasty.

Ossoli, Margaret Fuller, Marchioness. 1810-1850. American authoress.

Otho I. The Great. 912-973. Emperor of Germany. Christianized the Danes; deposed Pope John XII. II., 955-983. III., 980-1002. IV., 1174-1218.

Otho I. 1815-1867. King of Greece.

Otis, James. 1725-1783. Am. lawyer, orator and patriot. Opposed "writs of assistance"; leader of the popular party.

Otway, Thomas. 1651-1685. English dramatist.

Oudinot, Nicholas Charles. 1767-1847. French general. Outram, Sir James. 1802-1863. English general in India.

Overbury, Sir Thomas. 1581-1613. English poet.

Ovid. (Publius Ovidius Naso.) B.C. 43-18 A.D. Roman poet.

Owen, Richard. 1804-... Eng. zoölogist and anatomist.

Owen, Robert. 1771-1858. English socialist; founder of the community of New Harmony.

Oxenstiern, Axel, Count. 1583-1654. Swedish statesman.

ADILLA, Don Juan Lopez de.-1521. Spanish patriot and general; executed.

Paganini, Niccolo. 1784-1840. Italian violinist.

Paine, Robert Treat. 1731-1814. Am. lawyer and statesman.
 Paine, Thomas. 1737-1809. American political writer and free-thinker; born in England. Common Sense; Rights of Man; The Age of Reason.

Pakenham, Sir Edward.-1815. British general; fell at New Orleans.

Palestrina, Giovanni Pierluigi da. 1524?-1594. Italian composer of church music. Mass of Pope Marcellus.

Paley, William. 1743-1805. English theologian.

Palissy, Bernard. 1506-1589. Fr. potter and enameller.

Palladio, Andrea. 1518-1580. Italian architect.

Palmaroli, Pietro. ...-1828. Italian painter.

Palmerston, Henry John Temple, Viscount. 1784-1865. English statesman; minister of foreign affairs and prime minister.

Paoli, Pasquale di. 1726-1807. Corsican general.

Papin, Denis. 1647-1712. French physician. (Digester.)

Papineau, Louis Joseph. 1789–1871. Canadian politician.

Paracelsus, Philippus Aureolus Theophrastus Bombastus von Hohenheim. 1493-1541. Swiss alchemist and empiric.

Parepa-Rosa, Euphrosyne. 1836–1874. Scottish vocalist.

Paris, Louis Albert Philippe d'Orleans, Comte de. 1838-.... French prince; grandson of Louis Philippe.

Park, Mungo. 1771-1805. Scottish traveller and explorer.

Travels in the Interior of Africa.

Parker, Matthew. 1504-1575. English prelate.

Parker, Theodore. 1810–1860. Am. rationalistic theologian. Parkman, Francis. 1823–.... American historian.

Parnell, Charles Stewart. 1843-.... Irish agitator; leader of the Land League movement.

Parr, Catherine. 1509-1548. Surviving queen of Henry VIII. Parrhasius. Fl. 400 B.C. Greek painter.

Parrott, Robert Parker. 1804-1877. American inventor.

Parry, Sir William Edmund. 1790–1855. English Arctic explorer; discovered Barrow's Strait.

Parsons, Theophilus. 1750-1813. American jurist.

Parsons, Theophilus. 1797-1882. American jurist.

Pascal, Blaise. 1623-1662. French philosopher and mathematician. At the age of twelve, he had acquired, without books, a knowledge of geometry; established the theory of atmospheric pressure, 1648; entered the cloister of Port Royal, and there produced, in 1656, his Provincial Letters against the Jesuits.

Patrick, Saint. 372?-460? Apostle of Ireland.

Patti, Adelina Maria Clorinda, Marquise de Caux. 1843-....

Operatic singer, of Italian descent; born in Madrid.

Paul, Saint, of Tarsus. Saul. 10?-66? Apostle.

Paul I. Pope from 757 to 767. II., 1464-1471. III. (Alessandro Farnese), 1534-1549; excommunicated Henry VIII.; called Council of Trent. 1V., 1555-1559. V., 1605-1621.

Paul I. 1754-1801. Emperor of Russia; assassinated.

Paul Veronese. (Paolo Cagliari.) 1530?-1588. It. painter.

Pausanias. Fl. 479 B.C. Spartan general.

Paxton, Sir Joseph. 1803-1865. English architect.

Payne, John Howard. 1792-1852. American dramatist and poet. Home, Sweet Home.

Peabody, George. 1795-1869. American philanthropist.

Acquired great wealth as a banker in London; expended over five millions in benevolent enterprises.

Peale, Rembrandt. 1778-1860. American painter.

Pedro (de Alcantara) I. 1798–1834. Emperor of Brazil; king of Portugal as Pedro IV. II., 1825-....

Peel, Sir Robert. Orange Peel. 1788-1850. English statesman and prime minister; repealed the Corn Laws.

Peirce, Benjamin. 1809-.... American mathematician.

Pelham, Henry. 1694-1754. English statesman.

Pellegrini, Pellegrino. 1527–1595. It. painter and architect. Pellico, Silvio. 1789–1854. Italian poet and patriot.

Pemberton, John Clifford. 1814–1881. Confederate general. Penn, William. 1644–1718. English Quaker; statesman, courtier, author and philanthropist; counder of Pennsylvania. Son of Sir William Penn, an English admiral.

Pepin. The Short. 714?-768. King of France. Son of Charles Martel and father of Charlemagne. Mayor of the palace under Childeric III.; usurped the throne in 752.

Pepys, Samuel. 1632-1703. English author and scholar; secretary of the admiralty. Diary: Memories of the Navy.
Pepperell, Sir William. 1696-1759. Am. colonial general.

Pepperell, Sir William. 1696-1759. Am. colonial general. Perceval, Spencer. 1762-1812. Eng. statesman; assassinated. Percival, James Gates. 1795-1856. American poet.

Percy, Thomas. 1728-1811. English prelate and author.

Pereire, Emile (1800-1875) and Isaac (1806-....). French financiers. Founded the "Credit Mobilier."

Pergolesi, Giovanni Battista. 1710?—1737? Italian composer. Pericles. 495?—429 B.C. Athenian orator, statesman and general. Became the leader of the democratic party and the first man in Athens; greatly increased Athenian influence; erected many noble public works, including the Parthenon.

Perrault, Claude. 1613-1688. French architect.

Perry, Matthew Calbraith. 1794-1858. American commodore; commanded expedition to Japan.

Perry, Oliver Hazard. 1785-1819. American commodore; defeated the British on Lake Erie,

Persius Flaccus, Aulus. 34-62. Roman satirist.

Perugino, Pietro. (Vannucci.) 1446–1524. Italian painter. Pestalozzi, Johann Heinrich. 1745–1827. Swiss educationist. Peter, Saint.-66. Apostle.

Peter I. The Great. 1672-1725. Czar of Russia. Organized an army and entered it as a private; studied practical seamanship, and formed a nawy; travelled incognito in Western Europe; worked as a ship-carpenter in Holland; founded schools and effected a number of reforms; defeated Charles XII. of Sweden, at Pultowa, 1709; founded St. Petersburg. His second wife, Catherine, was a prisoner of war, of obscure parentage. The crown prince, Alexis, opposing the czar's policy, was forced to renounce the succession and is said to have been poisoned by his father.

Peter the Hermit. 1050?—1115. Preacher of first crusade.

Peterborough, Charles Mordaunt, Earl of. 1658—1735.

English general; able but eccentric. Captured Barcelona and Valencia.

Petion, Alexandre. 1770—1818. First president of Hayti.

Petrarch. (Francesco Petrarca.) 1304-1374. Italian poet and scholar. Enamored of Laura de Sade, whose name has been rendered immortal by over three hundred sonnets and fifty canzoni addressed to her.

Pettie, John. 1839-... Scottish artist.

Phelps, Elizabeth Stuart. 1815-1852. American authoress. The Sunny Side.

Phelps, Elizabeth Stuart. 1844-.... Daughter of preceding American authoress. The Gates Ajar.

Phidias. 490-432 B.C. The greatest of Greek sculptors. His Zeus at Olympia is counted among the wonders of the world.

Philidor. Assumed name of a French family (Danican) of musicians. François André Danican (1726-1795) was a celebrated chess player.

(Pometacom.) King Philip. Philip.-1676. New England Indian chief; sachem of Pokanoket. (King Philip's war.)

Philip II. 382-336 B.C. King of Macedonia; father of Alexander the Great. Assassinated.

Philip II. (Augustus.) 1165-1223. King of France. Annexed Normandy, Anjou and Lorraine; won the battle of Bouvines. III., The Bold, 1245-1285; ascended the throne in 1270. IV., The Fair, 1268-1314; reduced the power of the feudal nobles; imprisoned Pope Boniface III. and caused him to remove his seat to Avignon; suppressed the order of Knights Templars. VI. (of Valois), 1293-1350.

Philip II. 1527-1598. King of Spain. Son of Charles V. Provoked insurrection in the Netherlands by his attempt to introduce the Spanish Inquisition: married, on the death of Mary Tudor, his second wife, Isabella of France, the betrothed of his son, Don Carlos; equipped the "Invincible Armada" for the conquest of England. III., 1578-1621. IV., 1605-1665. V., 1683-1746; first of the House of Bourbon,

Philip. The Good. 1390-1467. Duke of Burgundy.

Phillips, Adelaide. 1833-... English-American vocalist. Phillips, Wendell. 1811-1884. American orator and abolitionist. Speech in Faneuil Hall, 1836.

Phips (or Phipps), Sir William. 1651-1695. Colonial governor of Massachusetts. Captured Port Royal.

Phocion. 402?-317 B.C. Athenian general and statesman.

Piccolomini, Ottavio. 1599-1656. Austrian general; conspirator against Wallenstein. Gained great distinction in the Thirty Years' war; led Spanish army in Flanders.

Pickering, Timothy. 1745-1829. American statesman.

Pierce, Franklin. 1804-1869. Fourteenth president of the United States. Born in New Hampshire; Congress, 1832-7; senator, 1837-42; brigadier-general in Mexican war; elected president on the Democratic ticket, in 1852, holding that office from 1853-7; opposed coercion of the South in 1863.

Pilate, Pontius.-38. Roman governor of Palestine.

Pinckney, Charles Cotesworth. 1746-1825. American statesman and soldier: leader of the Federalists.

Pindar. 520?-440? B.C. Greek lyric poet.

Pinkney, William. 1764-1822. Am. lawyer and orator. Pisano, Andrea. 1270-1345. Italian sculptor and architect.

Pisano, Nicola. 1200?-1278? Italian sculptor.

Pisistratus. 612-527 B.C. Tyrant of Athens.

Pitcairn, Maj. John.-1775. English officer; fell at

Pitman, Benn.-... English phonographer.

Pitman, Isaac. 1813-... Eng. inventor of phonography.

Pitt, William. 1759-1806. English statesman and orator. Son of the Earl of Chatham. Graduated at Cambridge; admitted to the bar, 1780; entered Parliament, 1781; chancellor of the exchecquer, 1782; first lord of the treasury and prime minister, 1783; head of the great coalition against Bonaparte.

Pius I. Pope, 142-157. II., 1458-1464. III., 1503; died same year IV. (Giovanni Angelo de'Medici), 1559-1565; convoked Council of Trent. V., 1566-1572. VI., 1775-1799. VII., 1800-1823; taken from Rome in 1809 by Napoleon, and detained at Genoa and Fon-

tainebleau. VIII., 1829-1830. IX. (Giovanni Maria Mastai Ferretti), born 1702: chosen to the pontificate, 1846: died, 1878. During his incumbency the dogmas of the Immaculate Conception and of Papal Infallibility were promulgated; temporal power overthrown, 1870, and the Papal States annexed to Italy.

Pizarro, Francisco. 1475?-1541? Sp. conqueror of Peru.

Plantagenet. Dynasty of English kings, 1154-1485.

Plato. 428-347 B.C. Greek philosopher; disciple of Socrates. Held that the human soul has always existed, and that an idea is an eternal thought of the divine mind.

Pleasonton, Alfred. 1824-... American general.

Pliny. The Elder. 23-79. Roman naturalist; perished at an eruption of Vesuvius. Natural History.

Pliny. The Younger. 62?-116. Roman orator and author. Plotinus. 205-270. Greek Neo-Platonic philosopher.

Plunkett, William Conyngham, Lord. 1764-1854. Irish jurist.

Plutarch. 50?-120? Greek biographer and philosopher. Parallel Lives.

Pocahontas. 1595?-1617. Daughter of Powhatan. Saved the life of Capt. John Smith, an English explorer; was converted to Christianity, and married an English gentleman named Rolfe.

Poe, Edgar Allan. 1809-1849. American author; extremely dissipated. The Raven; The Fall of the House of Usher; Tales of the Grotesque and Arabesque.

Polk, James Knox. 1795-1849. American statesman; eleventh president. Born in North Carolina; removed to Tennessee; admitted to the bar; Congress, 1825; speaker for two terms; governor of Tennessee, 1839-41; elected president on the Democratic ticket, holding that office from 1845-9. During his term Texas was formally annexed to the Union, and the Mexican war prosecuted.

Polk, Leonidas. 1806-1864. Episcopal bishop and Confederate general; prominent at Shiloh and Stone River.

Pollok, Robert. 1798?-1827. Scot. poet. Course of Time. Polo, Marco. 1252?-1324? Venetian traveller.

Polybius. 206?-124 B.C. Greek historian.

Polycarp, Saint. 80?-169? Bishop of Smyrna; martyr.

Pompadour, Jeanne Antoinette Poisson, Marquise de. 1721-1264. Mistress of Louis XV. of France: assumed complete control of public affairs.

Pompey. The Great. 106-48 B.C. Roman general and triumvir; conquered Suctonius and Mithridates; became leader of the aristocracy and opponent of Cæsar; defeated at Pharsalia.

Ponce de Leon, Juan. 1460-1521. Spanish discoverer of

Poniatowski, Jozef Antoni, Prince. 1762-1813. Polish commander; created field-marshal by Napoleon

Pontiac. 1712?-1769. Chief of the Ottawas; formed coalition of Indians against the whites, and attempted to capture Detroit.

Pope, Alexander. 1688-1744. English poet. The son of a linen-draper; educated by a Catholic priest. Macaulay calls him "a great master of invective and sarcasm." Messiah; Pastorals; Essay on Man; Essay on Criticism; The Dunciad; Rape of the Lock, and translations of Homer.

Porter, David. 1780-1843. American commodore.

Porter, David Dixon. 1813-.... Son of preceding. American admiral; reduced Fort Fisher, 1865.

Porter, Fitz John. 1823-... Nephew of David Porter. American general.

Porter, Jane. 1776-1850. Eng. novelist. Thaddeus of Warsaw. Poussin, Nicholas. 1594-1665. French painter.

Powers, Hiram. 1805-1873. American sculptor.

Powhatan. 1550?-1618. Indian chieftain in Virginia.

Praxiteles. Fl. 360 B.C. Greek sculptor.

Preble, Edward. 1761-1807. American naval officer.

Prentice, George Denison. 1802-1870. American poet and journalist.

Prentiss, Sergeant Smith. 1808-1850. American orator and lawyer.

Prescott, William Hickling. 1796-1859. American historian. Ferdinand and Isabella.

Price, Sterling.1867. Confederate general.

Prim, Juan, Count de Reus and Marquis de los Castillejos. 1814-1870. Spanish general and statesman; assassinated.

Prior, Matthew. 1664-1721. English poet and diplomatist.

Probus, Marcus Aurelius. 232–282. Roman emperor. Procter, Adelaide Anne. 1825–1864. English poetess.

Procter, Bryan Waller. Barry Cornwall. 1790-1874. English poet. The Sea.

Prout, Father. (Francis Mahony.) 1805-1866. Irish journalist and writer.

Prynne, William. 1600-1669. English Puritan writer.

Ptolemy I. Soler. 397?-283 B.C. King of Egypt. II., Philadelphus, 309-247 B.C.

Ptolemy. (Claudius Ptolemæus.) Fl. 2d century. Greek astronomer and geographer. Believed the earth to be at rest in the centre of the universe, the heavenly bodies moving around it.

Pugin, Augustus N. W. 1811-1852. English architect.

Pulaski, Casimir, Count. 1747-1779. Polish patriot; general in the American Revolutionary army. Fell at the siege of Savannah.

Putnam, Israel. 1718–1790. American Revolutionary general. Conspicuous at the battle of Bunker Hill.

Pym, John. 1584–1643. English republican statesman and orator; popular leader in Parliament.

Pyrrho. 360?-270? B.C. Greek skeptic and philosopher.

Pyrrhus. 318?-272 B.C. King of Epirus and one of the greatest of ancient generals.

Macedonia.

Pythagoras. 600?-510? B.c. Greek philosopher. Taught the doctrine of transmigration of souls.

QUACKENBOS, George Payn. 1826-1881. American educationist.

Quarles, Francis. 1592-1644. English poet. Emblems.
Queensberry, William Douglas, Duke of. 1724-1810. Scottish profligate.

Quin, James. 1693-1766. English actor, famous as Falstaff. Quincy, Josiah. 1744-1775. American orator and patriot. Quincy, Josiah. 1772-1864. Son of preceding. American

Quintilianus, Marcus Fabius. 50?-118? Roman rhetorician.

statesman and scholar.

ABELAIS, François. 1495?—1553. French scholar and satirist. Joined the Franciscans, but left the order; afterward studied medicine. His great work, The Pleasant Story of the Giant Gargantua and his Son Pantagruel, is a satire upon the different branches of society of his age, more particularly the monastic orders.

Rachel. (Elizabeth Rachel Félix.) 1821-1858. French actress, born in Switzerland; daughter of a Jewish peddler.

Racine, Jean. 1639-1699. French dramatist. Les Plaideurs; Britannicus; Berenice; Bajazet; Iphigénie; Phèdre; Esther; Athalie.

Racine, Louis. 1692-1763. French poet. Son of J. R. Radcliffe, Ann. 1764-1823. English novelist.

Radcliffe, John. 1650-1714. English physician.

Raglan, James Henry Fitzroy Somerset, Lord. 1788–1855. English general. Commanded British army in Crimean war.

Raleigh, Sir Walter. 1552-1618. English courtier, statesman, navigator and author. A favorite of Queen Elizabeth; executed by james I.

Rameau, Jean Philippe. 1683-1764. French composer.

Ramsay, Allan. 1685-1758. Scottish poet.

Ramsay, David. 1749-1815. American historical writer.

Randolph, John (of Roanoke). 1773-1833. American politician and orator. Entered Congress 1799; advocated extension of slavery; opposed Missouri Compromise; Senate, 1824; soon after fought a duel with Henry Clay; minister to Russia, 1830.

Randolph, Peyton. 1723-1775. President of first American Congress.

Raphael. (Raffaelle Sanzio, or Santi d' Urbino.) 1483-1520.

Italian painter. Sistine Madonna; Adoration of the Magi; Marriage of the Virgin; Transfiguration, etc.

Ravaillac, François. 1578-1610. French fanatic; assassin of Henry IV.

Read, Thomas Buchanan. 1822-1872. American poet and artist. The House by the Sea: The Wagoner of the Alleghanies.

Reade, Charles. 1814-1884 English novelist. Peg Woffington; Hard Cash; White Lies; A Terrible Temptation; Griffith Gaunt.

Reaumur, Rene Antoine Ferchault de. 1683-1757. French naturalist and inventor of a thermometer.

Recamier, Jeanne F. J. A. B. 1777-1849. French lady noted for beauty and accomplishments.

Red Jacket. 1760-1830. Eloquent Seneca Indian chief.

Reeves, Sims. 1821-.... English oratorio singer.

Regulus, Marcus Atilius.-250 B.C. Roman general and statesman. Captured by the Carthaginians and sent to Rome to secure peace, but advised against it; returning to Carthage as he had promised, he was tortured and put to death.

Reid, Capt. Mayne. 1818-1883. Irish-American novelist.

Rembrandt van Ryn, Paul. 1607-1669. Dutch painter.

Remusat, Charles François Marie, Count. 1797-1875. French statesman and philosopher. Essays on Philosophy.

Renan, Joseph Ernest. 1823-.... French philologist and writer. Life of Jesus.

Retz, Jean François Paul de Gondi, Cardinal. 1614-1679. French prelate; a leader of the Frondeurs. *Memoirs*.

Reuter, Fritz. 1810-1874. Low-German poet and novelist.

Reuter, Julius. 1815-.... German originator of Reuter's
Telegraphic Agency.

Revere, Paul. 1735-1818. American engraver and Revolutionary patriot. Carried the news of Gage's impending attack to Concord.

Reynolds, John Fulton. 1820–1863. American general. Reynolds, Sir Joshua. 1723–1792. English painter.

Ricardo, David. 1772-1823. English political economist.

Richard I. Cœur de Lion. 1157-1199. King of England. Led a large army into Palestine, where he exhibited great personal prowess; conquered Acre and defeated Saladin. II., 1366-1400. III., 1452-1485, last of the Plantagenets.

Richardson, Samuel. 1689-1761. English novelist.

Richelieu, Armand Jean du Plessis, Cardinal. 1585-1642.
French prelate and statesman. Made cardinal, 1622; prime minister, 1624; curbed the nobility; subdued the Calvinists; restored balance of power in Europe; granted religious toleration to the Protestants; secured exile of his foe, Marie de Medici, the king's mother, 1630; aided German Protestants against Austria; founded French Academy (1635); added Alsace, Lorraine, and Roussillon to France.

Richter, Johann Paul Friedrich. Jean Paul. 1763-1825. German author. Among his works, which are distinguished for quaintness and originality, may be named Greenland Lawsuits; Hesperus; The Invisible Lodge; Parson in Jubilee; Titan.

Ridley, Nicholas. 1500?-1555. English bishop and reformer. Burned at the stake.

Rienzi, Nicola Gabrini. 1313?-1354. Roman orator; made famous by his attempt to restore the Roman Republic.

Ripon, George Frederick Samuel Robinson, Earl de Grey and Marquis of. 1827-... English statesman.

Ristori, Adelaide, Marchioness del Grillo. 1821-.... Italian

Rittenhouse, David. 1732-1796. American astronomer.

Riviere, Briton. 1840-.... English animal painter.

Rizzio, David. 1540-1566. Italian musician; favorite and secretary of Mary Stuart; assassinated.

Robert. Robert the Devil.-1035. Duke of Normandy; father of William the Conqueror.

Robert I. Robert Bruce. 1274-1329. King of Scotland. II., 1316-1390; first of the Stuarts.

Robert, Louis Léopold. 1794-1835. French painter.

Robertson, Frederick William. 1816-1853. Eng. divine.

Robespierre, Maximilien Joseph Marie Isidore. 1758-1794. French Jacobin revolutionist; ruler during the Reign of Terror; guillotined.

Robin Hood. Fl. 12th century. English outlaw.

Rob Roy. (Robert McGregor.) 1660?-1735? Scottish freebooter.

Rochamb. au, Jean Baptiste Donatien de Vimeur de, Count. 1725-1807. French marshal; general in America in 1781.

Rochefort, Victor Henri de Rochefort-Luçay, Comte. 1830-.... French editor and communist.

Rochefoucauld, François, Duc de la. 1613-1680. French wit and author. Maxims.

Rochejaquelin, Henri de la, Comte. 1772-1794. French royalist; leader of the Vendeans.

Rodney, George Bridges, Lord. 1718-1792. Brit. admiral. Roebling, John Augustus. 1806-1869. American engineer. Rogers, John. 1829-.... American sculptor.

Rogers, John. 1500?-1555. English divine; burned at Smithfield.

Rogers, Samuel. 1763-1855. English poet.

Roland, Marie Jeanne Philipon, Mme. 1754-1793. French Girondist and writer; guillotined. Memoirs.

Rollin, Charles. 1661-1741. Fr. historian. Ancient History. Rollo, or Hrolf. 860?-930? Norwegian viking. First duke of Normandy.

Romanoff, Michael Feodorovitch. 1598?-1645. Founder of the Russian dynasty.

Romulus. Fl. 750 B.C. Founder of Rome.

Romilly, Sir Samuel. 1757-1818. English statesman.

Rooke, Sir George. 1650-1709. British admiral.

Rosa, Salvator. 1615-1673. Italian painter.

Roscius, Quintus. 61 B.C.Roman actor.
Rosecrans, William Starke. 1817-.... Am. general.

Ross, Sir John. 1777-1856. British admiral and Arctic navigator.

Ross, Sir James Clark. 1800-1862. Nephew of preceding. British Arctic navigator.

Rossetti, Dante Gabriel. 1828-1882. English painter and poet. House of Life.

Rossini, Gioacchimo. 1792-1868. Italian composer. William Tell; The Barber of Seville.

Rothschild, Mayer Anselm. 1743-1812. Jewish banker at Frankfort: founder of the house of Rothschild.

Rouget de l'Isle, Claude Joseph. 1760-1836. French poet and musician. Marseillaise.

Rouher, Eugene. 1814-... French politician.

Rousseau, Jean Baptiste. 1670-1741. French lyric poet.

Rousseau, Jean Jacques. 1712-1778. French philosopher and writer. Born in Geneva; apprenticed to an engraver, but wasdered about, and was successively a servant, a clerk, and a music teacher; went to Paris 1745, and met Diderot and Grimme; formed a connection with Thérèse le Vasseur, an ignorant woman, whom he afterward married. In 1760 appeared Julie, or The New Helotse; in 1762, The Social Contract. His Emile, or Education, was burned at Geneva, and he was compelled to take refuge in England. His Comfessions are an autobiography.

Rubens, Peter Paul. 1587-1640. Flemish painter.

Rubinstein, Anton. 1830-.... Rus. composer and pianist. Ruckert, Friedrich. 1789-1866. Ger. orientalist and poet.

Rudolph I. (of Hapsburg). 1218-1291. Emperor of Germany. Founder of the Austrian empire. II., 1552-1612.

Rumford, Benjamin Thompson, Count. 1753-1814. American natural philosopher in France.

Rupert, Prince. (Prince Robert of Bavaria.) 1619-1682. German warrior.

Ruskin, John. 1819-.... English writer on art.

Russell, John, Earl. 1792-1878. English statesman.

Russell, William, Lord. 1639-1683. English patriot. headed on a charge of complicity in the "Rye House Plot."

Rutledge, John. 1739-1800. American statesman and jurist. Ruyter, Michael Adrianzoon de. 1607-1675. Dutch admiral.

ACKVILLE, George, Viscount. Lord George Germain. 1716-1785. English statesman and general.

Sadlier, Mary Anne, Mrs. 1820-... Am. authoress.

Saint Clair, Arthur. 1734-1818. American general.

Sainte-Beuve, Charles Augustin. 1804-1869. French poet and critic.

Saint-Pierre, Jacques Henri Bernardin de. 1737-1814. Fr. author. Paul et Virginie.

Saint Simon, Claude Henri de, Count. 1760-1825. French socialist.

Sala, George Augustus Henri. 1828-... Eng. littérateur. Saladin. 1137-1193. Sultan of Egypt and Syria. Opposed the Crusaders. Defeated the Christians at Tiberias.

Sale, George. 1680-1736. English orientalist.

Salisbury, Robert Arthur Talbot Gascoyne Cecil, Marquis of. 1830-... English statesman.

Sallust. (Caius Sallustius Crispus.) 86-34 B.C. Rom. historian. Saltonstall, Sir Richard. 1586-1658? Puritan in Massachusetts colony.

Salvini, Tommaso. 1833-.... Italian actor.

Samuel. 1170-1060 B.C. Last of the Israelite judges.

Sand, George. See Dudevant.

Sandeau, Leonard Sylvain Jules. 1811-1883. Fr. novelist. Santa Anna, Antonio Lopez de. 1798-1876. Mexican general and statesman.

Sappho. Fl. 600 B.C. Greek lyric poetess.

Sardanapalus. Fl. 900 B.C. King of Assyria.

Sardou, Victorien. 1831-.... French dramatist.

Saul.-1055 B.C. First king of Israel. Savage, Richard. 1698-1743. Eng. poet. The Wanderer. Savonarola, Girolamo. 1452-1598. Italian religious reformer. Saxe, Hermann Maurice, Count of. 1696-1750. Marshal of France; native of Saxony. Captured Prague 1741. Saxe, John Godfrey. 1816-1887. American humorous poet. Scanderbeg, George Castriota. 1410?-1467. Albanian chief. Defeated the Turks. Schelling, Friedrich Wilhelm Joseph von. 1775-1854. German philosopher. Schenck, Robert Cumming. 1809-.... Am. statesman. Schiller, Johann Christoph Friedrich von. 1759-1805. The most popular of German poets. Studied medicine and law, but could not resist his inclination toward literature. His drama, The Robbers, appeared in 1777: Thirty Years' War, 1701: Wallenstein, the work of many years, 1799. The Maid of Orleans, Mary Stuart and William Tell are among his best known dramas, and The Song of the Bell is considered the best of his minor poems. Schiller removed to Weimar in 1799, and there enjoyed the friendship of Goethe. Sc'ilegel, August Wilhelm von. 1767-1845. German poet, ritic and philologist. Lectures on Dramatic Literature. Schlegel, Karl Wilhelm Friedrich von. Brother of preceding. 1772-1829. German philosopher and scholar. Lectures on the Philoso-Schliemann, Heinrich. 1822-.... German traveller. Schoeffer, Peter. 1430-1500. One of the inventors of printng; partner of Johann Faust. Schafield, John McAllister. 1831-... American general. Schomberg, Friedrich A. H., Duke of. 1616?-1600. Protestant general. Born at Heidelberg; served in Swedish army during the Turty Years' war: afterward marshal of France: entered the service of the Prince of Orange, and fell at the battle of the Boyne. Schopenhauer, Arthur. 1788-1860. German pessimist philosopher. The World as Will. Schott, Andreas. 1552-1629. Dutch Jesuit scholar. Schubert, Franz. 1797-1828. German composer. Schumann, Robert. 1810-1856. German composer. Schurz, Carl. 1829-.... German-American statesman. Schuvaloff, Peter, Count. 1828-... Russian diplomatist. Schuyler, Philip. 1733-1804. Am. general and patriot. Schwanthaler, Ludwig Michael. 1802-1848. Ger. sculptor. Schwarz, Berthold. Fl. 14th century. German monk and alchemist: reputed inventor of gunpowder. Schweinfurth, Georg August. 1836-... Ger. traveller. Scipio Africanus Major, Publius Cornelius. 235 B.C.-184? Roman general; invaded Africa and defeated Hannibal. Scipio Æmilianus Africanus Minor, Publius Cornelius. 185 ?-129 B.C. Roman general; captured and destroyed Carthage. Scott, Sir Walter. 1771-1832. Scottish novelist and poet. Scott, Winfield. 1786-1866. American general. Sebastian, Saint. 255?-288. Roman soldier and martyr.

Sebastian, Dom. 1554-1578. King of Portugal and warrior;

Sedgwick, Catherine Maria. Daughter of T. S. S. 1789-1867.

Secchi, Pietro Angelo. 1818-1878. Italian astronomer.

Sedgwick, John. 1813-1864. American general.

Selden, John. 1584-1654. English statesman.

Sedgwick, Theodore. 1746-1813. American jurist.

invaded Morocco, but was defeated and slain.

American authoress.

Selkirk, Alexander. 1676?-.723. Scottish sailor whose adventures suggested the story of Robinson Crusoe. Semiramis. Fl. 1250 B.C. Assyrian queen. Built Babylon, and greatly increased her dominions; invaded India, but was defeated. Semmes, Raphael. 1809-1877. Confederate naval officer. Seneca, Lucius Annæus. 5?-65. Roman statesman, moralist and Stoic philosopher. Sennacherib. Fl. 700 B.C. Assyrian king. Sergius I. Pope from 687-701. II., 844-847. III., 904-913. IV., 1000-1012. Servetus, Michael. 1509-1553. Spanish theologian. Burned at the stake. On the Errors of the Trinity. Sesostris. (Rameses.) Fl. 1400 B.C. King of Egypt. Severus, Alexander. 205-235. Roman emperor. Severus, Lucius Septimius. 146-211. Roman emperor. Sevigne, Marie de Rabutin-Chantal, Marquise de. 1627-1696. French lady celebrated for her beauty and accomplishments. Seward, William Henry. 1801-1872. American statesman. Secretary of state 1861-9. Seymour, Horatio. 1811-1886, American statesman. Elected governor of New York 1852, and re-elected 1862; opposed the administration's war policy, Democratic nominee for the presidency in 1868. Sforza, Ludovico. Il Moro. 1451-1510. Italian general. Shaftesbury, Anthony Ashley Cooper, first Earl of. 1621-1683. English statesman. Shaftesbury, Anthony Ashley Cooper, third Earl of. 1713. English philanthropist, author and freethinker. Shaftesbury, Anthony Ashley Cooper, seventh Earl of. 1801-1885. English philanthropist. Shakspere, Shakspeare, or Shakespeare, William. 1564 1616. The greatest English dramatist. Born at Stratford-on-Avon; married Anne Hathaway 1582; went to London about 1586 and became an actor and playwright; acquired a competence and retired to his native town about 1610. Venus and Adonis and The Rape of Lucrece, the only works published under his own hand, appeared 1593-4. The first edition of his collected works appeared in 1623. Hamlet: Lear; Macbeth; Othello; The Tempest; Midsummer Night's Dream, etc., etc. Shaw, Henry W. Josh Billings. 1818-1885. Am. humorist. Sheil, Richard Lalor. 1793-1851. Irish orator. Shelley, Percy Bysshe. 1792-1822. English poet. Expelled from Oxford, at the age of sixteen, for writing a treatise on the necessity of atheism; married the daughter of a retired innkeeper against his father's will; became reconciled to his father, and eloped with Miss Westbrook, whom he married at Greena Green; separated from her by mutual consent, and, hearing of his first wife's suicide, married Mary Godwin, with whom he was travelling on the continent; demanded at law the custody of the two children by his first marriage, but the guardianship was granted to their maternal grandfather, on the ground of the father's atheism; removed to Italy, where he was accidentally drowned. Adonais; The Cenci; Prometheus; Revolt of Islam; Alastor; The Witch of Atlas. The Cloud, Ode to the Skylark and The Sensitive Plant are among the most exquisite of his shorter poems. Sheppard, Jack.-1724. English burglar; hanged. Sheridan, Philip Henry. 1831-1888. American general. Victorious at Winchester, Cedar Creek and Five Forks. Made lieutenant-general of the U.S. army 1869, and promoted to the chief command on the retirement of General Sherman, 1883. Sheridan, Richard Brinsley. 1751-1816. Itish orator and dramatist. The Rivals; The School for Scanda!; The Duenna. Sherman, John. 1823-... American statesman. Secretary of the treasury, 1877-81; resumed specie payments. Sherman, Roger. 1721-1793. American statesman.

Sherman, William Tecumseh. 1820-.... Brother of John Sherman. American general. Made the celebrated "March to the Sea." Became general of the army in 1869, retiring in 1883.
Sickingen, Franz von. 1481-1523. German Protestant general.

Siddons, Sarah (née Kemble). 1755-1831. English actress.
 Sidney, Algernon. 1622-1683. English republican; executed on false charge of complicity in "Rye House Plot."

Sidney, Sir Philip. 1554-1586. English soldier and poet. Siemens, Ernst Werner. 1816-.... German inventor.

Siemens, Charles William. 1823-.... Brother of preceding. German inventor.

Sigismund. 1368-1437. German emperor and king of Hungary.

Sigismund I. 1466-1548. King of Poland. II., 1518-1572.
Sigourney, Mrs. Lydia Howard Huntley. 1791-1865. American poetess. Moral Pieces in Prose and Verse.

Silliman, Benjamin. 1779-1864. American naturalist.

Simeon Stylites. 390?-459. Syrian ascetic; lived for fortysix years on the tops of pillars.

Simms, William Gilmore. 1806–1870. American author. Simon, Jules. 1814–.... French statesman.

Sixtus I. Pope from 117 to 128. II., 257-258; martyr. III., 431-440. IV., 1471-1484. V. (Felice Peretti), 1585-1590.

Skobeleff, Michael. 1843-1882. Russian general.

Slocum, Henry Wadsworth. 1827-... American general. Smiles, Samuel. 1816-... Scottish author.

Smith, Adam. 1723-1790. Scottish political economist.

An Enquiry into the Nature and Causes of the Wealth of Nations.

Smith, Gerrit. 1797-1874. American philanthropist. Smith, Horace (1780?-1849) and James (1775-1839). English

poets and humorists; brothers. Rejected Addresses.
Smith, John, Captain. 1579-1631. English explorer; found-

er of Virginia. History of Virginia.

Smith, Joseph. 1805-1844. Founder of the Mormon church.

Smith, Joseph. 1805–1844. Founder of the Mormon church. Smith, Seba. Maj. Jack Downing. 1792–1868. Am. author. Smith, Sydney. 1771–1845. English divine and essayist.

Smollett, Tobias George. 1721-1771. Scottish novelist.

Roderich Random; Peregrine Pickle; Expedition of Humphrey
Clinker.

Sobieski, John. 1629-1696. King of Poland and patriot.
Defeated the Turks, and raised the slege of Vienna.

Socrates. 470?-399 B.C. Gr. philosopher; teacher of Plato.
 Soliman II. The Magnificent. 1494-1566. Sultan of Turkey. Conquered Persia and part of Hungary.

Solomon. The Wise. 1033-975? B.C. King of Israel. Solon. 638-558? B.C. Athenian law-giver and poet. Somers, John, Baron. 1650-1716. Eng. jurist and statesman.

Sontag, Henriette, Countess Rossi. 1806–1854. German vocalist.

Sophocles. 495-405 B.C. Gr. tragic poet. *Œdipus Tyrannus*. Sothern, Edward Askew. 1830-1881. English comedian. Soult, Nicholas Jean de Dieu. 1769-1851. French marshal. Southey, Robert. 1774-1843. English poet-laureate. *Thal-*

aba; The Curse of Kehama; Roderick, etc.

Southworth, Emma D. E. (Nevitt). 1818-.... American novelist. Retribution; The Curse of Clifford; The Pearl of Pearl

Sparks, Jared. 1789-1866. American historian.

Spartacus.-71 B.C. Thracian gladiator in Rome; inaugurated Servile war.

Speke, John Hanning. 1827–1864. English explorer in Africa.
 Spencer, Herbert. 1820–.... English philosopher. Sociology.
 Spenser, Edmund. 1553–1599. English poet. The Faerle Queen: The Shephearde's Calendar.

Spinola, Ambrosio, Marquis de. 1569-1630. Spanish general.
Spinoza, Benedict. 1632-1677. Dutch philosopher and pantheist. Ethics Demonstrated by Geometrical Method.

Spurgeon, Charles Haddon. 1834-... English pulpit-orator.
 Spurzheim, Johann Caspar. 1776-1832. German phrenologist.
 Stael-Holstein, Anne Louise Germaine Necker de, Baronne.
 Mme. de Staël. 1766-1817. French authoress, and a lady of remarkable genius. Corinne.

Standish, Miles. 1584-1656. Captain of Plymouth Colony.
Stanhope, Philip Henry, Earl of. 1805-1875. Eng. historian.
Stanley, Arthur Penrhyn. Dean Stanley. 1815-1881. English divine and author; dean of Westminster Abbey.

Stanley, Henry M. (John Rowlands.) 1840-... American explorer in Africa; born in Wales.

Stanton, Edwin McMasters. 1814-1869. American statesman; secretary of war in President Lincoln's cabinet.

Stanton, Elizabeth Cady. 1816-... American "Woman's rights" advocate.

Starhemberg (or Stahremberg), Ernst Rudiger, Count. 1635-1701. Austrian general.

Starhemberg (or Stahremberg), Guido Baldi, Count. 1657-1737. Austrian general.

Stark, John. 1728-1822. American Revolutionary general. Stedman, Edmund Clarence. 1833-... American poet.

Steele, Sir Richard. 1671-1729. British essayist and dramatist. The Funeral: The Tender Husband: The Conscious Lovers: Essays in The Tatler, The Spectator and The Guardian.

Stein, Heinrich Friedrich Karl von, Baron. 1757-1831. Prussian statesman.

Stephen, Saint. Stoned 36? First Christian martyr.

Stephen I. Pope, 253-257. II., 752. III., 752-757. IV., 768-772. V., 816. VI., 885-891. VII., 896-897. VIII., 928-930. IX., 939-942. X., 1057-1058.

Stephen I. (Saint.) 979-1038. King of Hungary. Stephen. 1105-1154. King of England.

Stephens, Alexander Hamilton. 1812-1883. American statesman. Born in Georgia; admitted to the bar, 1835; Congress, 1843; vice-president of the Confederate States; elected to the U. S. Senate from Georgia, but not permitted to take his seat; member of the House of Representatives, however, from 1874 until his death. History of the War between the States; A Constitutional View of the Late War between the States.

Stephenson, George. 1781-1848. English engineer; inventor of the locomotive engine.

Stephenson, Robert. 1803-1859. Son of preceding. English engineer; inventor of the tubular bridge.

Sterling, John. 1806-1844. British essayist.

Sterne, Laurence, Rev. 1713-1768. Irish humorous writer.

Tristram Shandy: The Sentimental Journey.

Steuben, Frederick William Augustus von, Baron. 1730-1794. German American general in the Revolutionary war.

Stevens, Thaddeus. 1793-1868. American abolitionist.

Stewart, Alexander Turney. 1802-1876. Am. merchant.

Stewart, Balfour. 1828-... Scottish physicist.

Stoddard, Richard Henry. 1825-.... American poet.

Story, Joseph. 1779-1845. American jurist.

Story, William Wetmore. 1819-.... American sculptor.

Stowe, Mrs. Harriet Elizabeth Beecher. 1812-.... American authoress. Uncle Tom's Cabin.

Strabo. 54 B.C.-24 A.D. Greek geographer.

Stradella, Alessandro. 1645-1678. Italian composer.

Stradivari, Antonio. 1670-1735. Italian violin-maker.

Strafford, Thomas Wentworth, Earl of. 1593-1641. English statesman: beheaded.

Strauss, Johann. 1804–1849. Ger. composer of dance music. Strauss, Johann. 1825–.... Son of preceding. German

Strickland, Agnes. 1806-1874. English authoress.

Stuart, Gilbert C. 1756-1828. American portrait painter.

Stuyvesant, Peter. 1602-1682. Last Dutch governor of New Netherland (New York).

Sue, Marie Joseph Eugene. 1804-1857. French novelist.

Sulla (or Sylla), Lucius Cornelius. 138-78 B.C. Roman statesman and general.

Sullivan, Arthur. 1844-... English composer. Pinafore,
Patience, etc. See also Gilbert.

Sumner, Charles. 1811-1874. American statesman, lawyer and abolitionist. True Grandeur of Nations.

Surrey, Henry Howard, Earl of. 1516?—1547. English poet. Suwarow, Alexander Vasilievitch. 1729–1774. Rus. general.

Swedenborg, Emanuel. 1688-1772. Swedish theosophist. In his theosophy, the central point is the correspondence of the natural and the supernatural. The True Christian Religion; The Mysteries of Heaven.

Swift, Jonathan. 1667-1745. Irish divine and satirist. Gulliver's Travels; Tale of a Tub.

Swinburne, Algernon Charles. 1837-.... English poet.

Sylvester I. (Saint.) Pope, 314-335. II., 999-1003. III.

(Anti-pope), 1013.

ACITUS, Caius Cornelius. 55? after 117? Roman historian. Germania.

Taglioni, Marie, Countess des Voisins. 1804-1884. Swedish opera dancer.

Taine, Hippolyte Adolphe. 1828-... French author.

Talbot, William Henry Fox. 1800-1877. English author and discoverer of photography.

Talfourd, Sir Thomas Noon. 1795-1854. Eng. author. Ion. Talleyrand-Perigord, Charles Maurice de, Prince of Benevento. 1754-1838. French diplomatist.

Talmage, Thomas Dewitt. 1832-... Am. clergyman.

Tamerlane (or Timour). 1336-1405. Asiatic conqueror.

Tancred. 1078-1112. Norman leader in the first crusade.

Taney, Roger Brooke. 1777-1864. American jurist.

Tannahill, Robert. 1774-1810. Scottish poet.

Tarquinius Superbus. (Lucius Tarquinius.)-495? B.C. Last king of Rome.

Tasman, Abel Janssen. 1600?-1645. Dutch navigator.

Tasso, Torquato. 1544-1595. Italian poet. Jerusalem Delivered.

Taylor, Bayard. 1825-1878. American traveller, novelist, poet and journalist; minister to Germany; translated Goethe's Faust. Among his works are Views Moot, or Europe seen with Knapsack and Staff; Travels; Poems of the Orient; Book of Romances; Lyrics and Songs, and several novels.

Taylor, Jeremy. 1613-1667. English bishop and author.

Taylor, Thomas. *The Platonist*. 1758-1835. Eng. scholar. Taylor, Tom. 1817-.... English dramatist.

Taylor, Zachary. 1784-1850. American general and statesman; twelfth president. Born in Virginia; entered the army in 1808; served in Seminole and Black Hawk wars; major-general in Mexican war, and won the battles of Resaca de la Palma and Buena Vista. Elected president by the Whigs in 1848.

Tecumseh. 1770-1813. Chief of the Shawnee Indians; formed alliance of Western Indians, and was defeated by Harrison at Tippecanoe.

Tell, Wilhelm. Flem. 1305. Legendary Swiss hero.

Teniers, David. The Younger. 1610-1690. Flem. painter.

Tennyson, Alfred. 1809-.... English poet-laureate. In

Memoriam: Enoch Arden: The Princess: The Idylls of the King:
Locksley Hall: The Lotus Eaters: The Holy Grail: Harold, etc.

Terence. (P. Terentius Afer.) 195?-160? B.C. Roman comic poet.

Terpander. Fl. 675 B.C. Greek musician.

Terry, Alfred Howe. 1827-.... American general.

Tertullian. 150?-230? Latin father of the church.

Tetzel, Johann. 1460?-1519. German monk; vender of indulgences.

Thackeray, William Makepeace. 1811-1863. English novelist. Born in Calcutta. Henry Esmond; Vanity Fair; The Newcomes; Pendennis; The Adventures of Philip; The Virginians; The Book of Snobs; The Four Georges; English Humorists.

Thalberg, Sigismond. 1812-1871. Swiss pianist.

Thales. 635?-546 B.C. Greek sage and philosopher.

Themistocles. 514?-449? B.C. Athenian general and statesman.

Theocritus. Fl. 275? Greek pastoral poet.

Theodora.-548. Empress of the East; wife of Justinian.

Theodore. 1818?-1868. King of Abyssinia.

Theodoric. The Great. 455-526. King of the Ostrogoths. Theodosius, Flavius. The Great. 346?-395. Rom. emperor.

Theophrastus. 372?-287? B.C. Gr. philosopher and moralist.
 Thierry, Jacques N. Augustin. 1795-1836. French historian.
 Thiers, Louis Adolphe. 1797-1877. French statesman and historian. History of the Consulate and Empire.

Thomas, George H. 1816-1870. American federal general.
Won the battles of Chickamauga and Nashville.

Thomson, James. 1700-1748. Scotch poet. The Seasons;
The Castle of Indolence; Tancred and Signsmunda.

Thoreau, Henry D. 1817-1862. American author. The Concord and Merrimac Rivers; The Maine Woods.

Thorwaldsen, Albert D. 1770-1844. Danish sculptor.

Thucydides. 470-400 B.C. Greek historian.

Tiberius. 42 B.C.-37 A.D. Roman emperor.

Tilden, Samuel Jones. 1814-1886. American statesman. Governor of New York: Democratic candidate for presidency, 1876.

Tilly, Johann Tzerklas von, Count. 1559-1632. German general in Thirty Years' war; fell at the battle of the Lech.

Timoleon. 395-337 B.C. Corinthian general.

Tindal, Matthew. 1657?-1733. English theological writer. Tintoretto, II. (Giacomo Robusti.) 1512-1594. It. painter.

Titian. (Tiziano Vecellio.) 1477-1576. The greatest of Venetian painters. Assumption of the Virgin; Peter Martyr; The Last Supper; Bacchus and Ariadne; Homage of Frederick Barbarossa to the Pope, etc.

Titiens (or Titjens), Therese. 1834-1877. German vocalist.

Titus. 40-81. Roman emperor.

Tobin, John. 1770-1804. Eng. dramatist. The Honeymoon. Tocqueville, Alexis Charles Henri Clerel de. 1805-1859. French statesman; author of Democracy in America.

Todleben, Franz Eduard. 1818-... Russian general.

Tone, Theobald Wolfe. 1763-1798. Irish patriot; founder of the United Irishman.

Tooke, John Horne. 1736-1812. English philologist and radical. Having said that certain Americans had been "murdered" at the battle of Lexington, he was sentenced to one year's imprisonment and a heavy fine; subsequently tried for treason, but acquitted.

Torquemada, Tomas de. 1420-1498. Spanish Dominican monk: inquisitor-general.

Torricelli, Evangelista. 1608-1647. Italian physicist.

Toussaint l'Ouverture, François Dominique. 1743-1803. Negro leader of the Haytien rebellion.

Trajan. 52-117. Roman emperor.

Trollope, Anthony. 1815-1883. English novelist.

Tromp, Marten Harpertzoon van. 1597-1653. Dutch admiral. Tromp, Cornelis van. 1629-1691. Dutch admiral.

Trumbull, John. 1750-1831. American poet and satirist.

Trumbull, John. 1756-1843. American painter.

Trumbull, Jonathan. 1740-1809. American statesman.

Tupper, Martin Farquhar. 1810-.... Fng. poet and author. Turenne, Henri de la Tour d'Auvergne, Vicomte de. 16111675. French general. Defeated Condé and the Spaniards in 1659; invaded Holland in 1672; killed at Salzbach.

Turgenef, Ivan Sergyevich. 1818-1883. Russian novelist.
 Turner, Joseph Mallord William. 1775-... English land-scape painter. The son of a barber. The Battle of the Nile; The Sun Rising through Vapor: The Fall of Schaffhausen.

Turpin, Dick. 1711-1739. English highwayman.

Tweed, William Marcy. Boss Tweed. 1823-1878. American politician and embezzler; mayor of New York city.

Tyler, John. 1790–1862. Tenth president of the United States. Born in Va.; practiced law; Congress, 1816–21; governor of Virginia, 1835; senator, 1827; sympathized with the nullifiers and opposed Jackson; resigned 1836; elected vice-president on Whig ticket, 1840; succeeded Harrison in 1841.

Tyler, Wat.-1381. English rebel; leader of rebellion against capitation tax.

Tyndall, John. 1820-... Irish scientist.

DAL, Nicolas. 1506-1564. English dramatist and teacher. Author of the first English comedy.

Uhland, Johann Ludwig. 1787-1862. German lyric poet.
Ulloa, Antonio de. 1716-1795. Spanish mathematician and naval officer; governor of Louisiana.

Ulphilas. 313-383. The apostle of the Goths. Translated the Scriptures into Gothic.

Ulpianus, Domitius. ...-228. Roman jurist.

Unger, Johann Friedrich. 1750-1813. German printer and

Urban I. Pope, ruling 223-230; martyr. II., 1088-1099; organized the first crusade. III., 1184-1187. IV., 1261-1264. V., 1362-1370. VI., 1378-1389. VII., 1500; died on the twelfth day of his pontificate. VIII., 1623-1644.

Ure, Andrew. 1778-1857. Scottish chemist and physician. Urfe, Honoré d'. 1567-1625. French romancist. Ussher, James. 1580-1656. Irish prelate and scholar.

Utrecht, Adriaan van. 1599-1651. Dutch painter.

TALENS, Flavius. 3287-378. Emperor of the East. Brother of Valentinian I. Arian persecutor of orthodox Christians. Valentinianus I. (Flavius.) 321-375. Roman emperor. II. (Flavius), 371-392. III. (Placidius), 479-455.

Valerian. (Publius Lucinius Valerianus.)-268? Roman emperor.

Van Buren, Martin. 1782-1862. Eighth president of the United States. Enrolled at the bar in New York in 1803, and elected to the state senate; state attorney-general, 1815; leader of the "Albany Regency"; U. S. Senator, 1821; governor, 1828; secretary of state, 1829-31; vice-president, 1833-7; president, 1837-41.

Vancouver, George. 1758?–1798. English navigator. Vanderbilt, Cornelius. 1794–1877. American capitalist.

Vandyke (or Van Dyck), Sir Anthony. 1599-1641. Flemish painter. Resided in England for several years before his death, where he became the most popular artist of his time. Besides many portraits, including those of the celebrated artists of his time and several of Charles I., may be mentioned as among his best works, The Crucifixion: St. Augustine in Ecstacy, and The Erection of the Cross.

Vane, Sir Henry. 1612-1662. English republican statesman. Convicted of treason and executed.

Vanloo, Charles André. 1705-1765. French painter.

Vanloo, Jean Baptiste. 1684-1745. French painter.

Van Rensselaer, Stephen. The Patroon. 1764-1839. American statesman and landholder.

Varus, Publius Quintilius. Fl. 7. Roman general; governor of Germany; defeated by Arminius.

Vassar, Matthew. 1792-1868. Founder of Vassar College.
Vauban, Sébastien le Prestre, Seigneur de. 1633-1707.
French military engineer.

Velasquez, Don Diego Rodriguez de Silva y. 1599-1660. Spanish painter.

Velde, Willem van der. The Elder. 1610-1693. Dutch marine painter.

Velde, Willem van der. *The Younger*. 1633-1707. Dutch marine painter.

Vendome, Louis Joseph, Duc de. 1654-1712. Fr. general.
Verbœckhoven, Eugène Joseph. 1799-1881. Belgian painter.
Verdi, Giuseppe. 1814-... Italian composer. Ernani;
La Traviata; Il Trovatore; Aida.

Vernet, Antoine Charles Horace. 1758–1836. Fr. painter. Vernon, Edward. 1684–1757. English admiral.

Vespasianus, Titus Flavius. 9-79. Roman emperor.

Vespucci, Amerigo. (Americus Vespucius.) 1451-1512. Italian navigator and astronomer, after whom America is named.

Vestris, Gaetano Apolline. 1729-1808. Italian dancer.

Victor, Claude Perrin, Duke of Belluno. 1764-1841. French marshal.

Victor I. Pope, from 185 to 198. II., 1055-1057. III., 1086-1087. IV. (Anti-pope), recognized by Frederick I. in 1159; died 1164.

Victor Emmanuel I. 1759-1824. King of Sardinia. II., 1820-1878; first king of Italy; restored Italian unity.

Victoria. (Victoria Alexandrina.) 1819-.... Queen of Great Britain and empress of India.

Vidocq, Eugène François. 1775-1850. French detective.

Villars, Claude Louis Hector de, Duc. 1653-1734. French general.

Vincent de Paul, Saint. 1576-1660. French priest and reformer. Founded the Congregation of Missions and the Sisters of Charity. Vinci, Leonardo da. 1452-1519. Italian painter. Last Supper: Madonna: Adoration of the Magi, etc.

Virgil (or Vergil). (Publius Virgilius Maro.) 70-19 B.C. Latin poet. Æneid; Eclogues; Bucolics; Georgics.

Volta, Alessandro. 1745-1827. It. inventor of the voltaic pile.

Voltaire, François Marie Arouet de. 1694-1778. French
author, poet, wit, dramatist, historian, philosopher and skeptic.
The son of a notary; imprisoned in the Bastile in 1716 on an unfounded
suspicion of being the author of a libel on the Regent, and there produced Œdipe and wrote part of the Henriade; in England, 1726-9,
passing much time in the society of Bolingbroke; his drama of Zarre
appeared in 1730, and about the same time he finished his History of
Charles XII.: Alaire, 1736; Mahomet, 1741; Merope, 1743; passed
the years 1750-3 with Frederick the Great; took up his residence (1755)
at Ferney. The Age of Louis XIV.: Essay on the Manners of Nations: Candide.

Voorhees, Daniel W. 1827-.... American orator and statesman: senator from Indiana.

Vortigern. ...-485. King of the Britons.

ADDINGTON, William Henry. 1826-.... French statesman and archæologist.

Wagner, Richard. 1813-1883. German composer, poet and critic. Rienzi; The Flying Dutchman; Tannhäuser; Lohengrin; Götterdämmerung; Nibelungenlied; Rheingold, etc.

Waite, Morrison Remich. 1816–1888. American chief justice. Waldemar I. *The Great.* 1131–1181. King of Denmark. Walker, John. 1732–1807. English lexicographer.

Wallace, Sir William. 1270?-1305. Scottish general and patriot. Defeated by Edward I. of England; betrayed and executed.
Wallace, William Vincent. 1815-1865. Irish composer.
Maritana.

Wallenstein. Albrecht Wenzel Eusebius von, Count. 15831634. Austrian general. Hero of one of Schiller's dramas. Entered
the imperial army at the beginning of the Thirty Years' war; raised an
army at his own expense in 1625, invading Denmark; banished from
court by Emperor Ferdinand, but recalled on the death of Marshal
Tilly; defeated by Gustavus Adolphus at Lutzen in 1632, but gained
several victories in Silesia; again lost the emperor's favor, being charged
with aspirations to the throne of Bohemia, was deprived of his command
and assassinated.

Walpole, Horace, Earl of Orford. 1717-1797. English author and wit. Catalogue of Royal and Noble Authors.

Walther von der Vogelweide. ("Walter of the Bird-Meadow.") 1170?-1230? Greatest of the German minnesingers.

Walton, Izaak. 1593-1683. English writer. The Complete Angler: or, A Contemplative Man's Recreation.

Warbeck, Perkin.-1499. English pretender; hanged. Ward, Artemas. 1727-1780. American general.

Warner, Charles Dudley. 1829-... American humorist.

Warner, Susan. (Elizabeth Wetherell.) 1818-1885. American authoress.

Warren, Joseph. 1741-1775. American physician, Revolutionary general and patriot; fell at Bunker Hill.

Warren, Samuel. 1807-1877. English author.

Warwick, Richard Neville, Earl of. The King-maker. 1420?-1471. English warrior. Set up and deposed Edward IV. Hero of Bulwer's Last of the Barons.

Washington, George. 1732-1799. Commander-in-chief in the American Revolution and first president of the United States. Born in Virginia. Aide-de-camp to Braddock in the Indian campaign of 1755: marrie. I Martha Custis, 1759: chosen to Congress, 1774; appointed commander-in-chief, 1775: president, 1789-97.

Watt, James. 1736-1819. Scottish engineer and inventor. Improved and completed the steam-engine. Has also been credited with the discovery of the composition of water.

Watteau, Jean Antoine. 1684-1721. French painter.

Watts, Isaac. 1674-1748. English Dissenting minister and sacred poet. Hymns.

Wayne, Anthony. 1745-1796. American Revolutionary general. Captured Stony Point.

Weber, Karl Maria Friedrich Ernst von, Baron. 1786–1826. German composer. Der Freischütz. His Waldmädchen, subsequently known as Sylvana, was composed at sixteen.

Webster, Daniel. 1782-1852. American lawyer, orator and statesman. Born in N. H.; Congress, 1812-16, 1822-8; Senate, 1828-41; secretary of state; re-entered the Senate in 1844; again became secretary of state in 1850. Webster was nominated for the presidency in 1834, but defeated; candidate for the Whig nomination in 1848, but defeated by Taylor, whom he cordially supported. Webster's reply to Hayne of South Carolina, is considered the greatest speech ever made on the floors of Congress. His greatest legal effort was in the famous Dartmouth College case.

Webster, Noah. 1758-1843. American lexicographer.

Wedgwood, Josiah. 1730-1795. English potter.

Weed, Thurlow. 1797-1883. American journalist.

Wellington, Arthur Wellesley, first Duke of. 1769–1852.

British general and statesman. Gained great distinction in India, in the war against the Mahrattas; major-general, 1802; Parliament, 1805; secretary for Ireland, 1807; defeated the Danes at Kioge, and was given command of an army sent to Spain against the French, 1808; opposed by superior forces and able generals, but jably thwarted their plans; triumphantly entered Madrid, 1812; defeated Jourdan and Soult, 1813; invaded France and gained numerous victories; defeated Napoleon at Waterloo, 1815, and entered Paris with the allies same year. Was afterward prime minister and minister of foreign affairs.

Wells, Horace. 1815–1848. American dentist. (Anæsthesia.) Wells, Samuel Roberts. 1820–1875. Am. phrenologist.

Wenceslaus (or Wenzel). 1361-1419. Emperor of Germany and king of Bohemia.

Wesley, Charles. 1708-1788. English Methodist divine and hymn-writer.

Wesley, Jchn. 1703-1791. Brother of preceding. English founder of Methodism.

West, Benjamin. 1738-1820. Am. painter in England. Wharton, Francis. 1820-.... Am. jurist and theologian.

Wharton, Henry. 1664-1695. English ecclesiastical writer

Whately, Richard. 1787–1863. Irish prelate and author. Wheeler, William Almon. 1819–1887. American statesman;

Whewell, William. 1794-1866. English philosopher.

vice-president.

White, Andrew Dickson. 1832-... American scholar.

White, Henry Kirke. 1785-1806. English religious poet.

White, Joseph Blanco. 1775-1841. English author.

White, Richard Grant. 1822-... American author.

Whitefield, George. 1714-1770. English preacher; founder of Calvinistic Methodists.

Whitman, Walt. 1819-.... American poet. In turn carpenter, editor, nurse and government clerk. Leaves of Grass.

Whitney, Eli. 1765-1825. Inventor of the cotton-gin.

Whittier, John Greenleaf. 1807-.... American poet. Born at Haverhill, Mass. Member of the Society of Friends. Farmer, shoemaker, journalist and abolitionis agitator. Snow Bound; Voices of Freedom; Songs of Labor; Home Ballads; In War Time; National Lyrics; The Tent on the Beach; Ballads of New England; Hazel Blossoms, etc.

Wieland, Christoph Martin. 1733-1813. German poet.
 Wilberforce, William. 1759-1833. English philanthropist and statesman. Secured the abolition of the slave trade.

William I. The Conqueror. 1027-1087. King of England. Duke of Normandy; conquered England. II., Rufus, 1056-1100. III. (William Henry of Nassau, Prince of Orange), 1650-1702; won battle of the Boyne. IV., 1765-1837; uncle of Queen Victoria.

William I. 1772-1843. King of the Netherlands. II., 1792-1849. III., 1817-....

William I. 1797-.... King of Prussia and emperor of Germany.

Williams, Eleazer. 1787-1858. American clergyman, claiming to be the son of Louis XVI. and Marie Antoinette.

Williams, Roger. 1599-1683. English Puritan minister; founder of Rhode Island colony; born in Wales.

Willis, Nathaniel Parker. 1806-1867. American journalist and poet.

Wilmot, David. 1814-1868. American statesman; author of the Wilmot Proviso.

Wilson, Alexander. 1766-1813. Scottish-American ornithologist.

Wilson, Henry. (Jeremiah Jones Colbath.) 1812–1875.

American politician; eighteenth vice-president.

Wilson, John. Christopher North. 1785-1854. Scottish

Wimpffen, Emmanuel Felix de. 1811-1884. French general.
 Wiseman, Nicholas. 1802-1865. Eng. Catholic cardinal.
 Witteland.-807. Saxon warrior; conquered by Charlemagne.

Wolcott, John. 1738-1819. English satirist. Peter Pindar's Odes.

Wolfe, Charles. 1791-1823. Irish poet. Burial of Sir John Moore.

Wolfe, James. 1726-1759. Eng. general; fell at Quebec.
Wolseley, Sir Garnet Joseph. 1833-.... British general.
Wolsey, Thomas. 1471-1530. English cardinal and statesman. Prime minister of Henry VIII.; deposed 1529.

Wood, Mrs. Henry. 1820-.... Eng. novelist. East Lynne. Woodworth, Samuel. 1785-1842. American poet. Old Oaken Bucket.

Worcester, Edward Somerset, Marquis of. 1601?-1667. English nobleman; one of the inventors of the steam-engine.

Worcester, Joseph Emerson. 1734-1866. Am. lexicographer. Wordsworth, William. 1770-1850. English poet. Educated at Cambridge; with Coleridge produced Lyrical Ballads, 1798; settled at Rydal Mount, 1803; Poems, 1807; The Excursion, 1814; The White Doe of Rylsione, 1815; Peter Bell, 1816. Ecclesiastical Sonnets; The Wagoner; Yarrow Revisited; The Prelude.

Wrangel, Karl Gustaf von, Count. 1613-1675. Sw. general.
Wrangell, Ferdinand Petrovitch von, Baron. 1795?-1870.
Russian explorer; governor of Russian America.

Wren, Sir Christopher. 1632-1723. English architect. (St. Paul's Cathedral, London.)

Wright, Silas. 1795-1847. American statesman.

Wycherley, William. 1640?-1715. English comedy writer.
Wycliffe (or Wickliffe), John de. 1324?-1384. English reformer; translator of the Scriptures.

XANTIPPE. The wife of Socrates; notorious for bad temper, but credited by her husband with many domestic virtues.

Xavier Francis, Saint. The Apostle of the Indies. 1506—1552. French Jesuit missionary to India and Japan.

Xenocrates. 396-314 B.C. Greek philosopher.

Xenophanes. 600?-500? B.C. Greek philosopher.

Xenophon. 445?-355? B.C. Athenian historian and general.

Anabasis: Cyropædia.

Xerxes I. The Great.-465 B.C. King of Persia. Invaded Greece, but was defeated at Salamis.

Ximenes, Francisco, Cardinal. 1436-1517. Spanish prelate, statesman and patron of literature. Published Polyglot Bible.

YAKOOB IBN LAIS.-879. Founder of the Persian dynasty of the Suffarides. Conquered Seistan and Farsistan. Yale, Elihu. 1648-1721. Founder of Yale College.

Yancey, William Lowndes. 1814-1863. American politician. Yonge, Charlotte Mary. 1823-... English authoress.

Yorck von Wartenburg, Hans David Ludwig, Count. 1759
1810. Prussian general.

York, Edmund Plantagenet, first Duke of. 1341-1402. Founder of the house of York.

Yorke, Charles, Lord Morden. 1722-1770. English statesman and jurist.

Young, Arthur. 1741–1820. English agricultural writer. Young, Brigham. 1801–1877. President of the Mormon

Young, Brigham. 1801–1877. President of the Mormon church.
Young, Charles Augustus. 1834-... American scientist.

Young, Edward. 1684-1765. English poet. Night Thoughts;
Love of Fame the Universal Passion: The Revenge.

Yves, Saint. 1253-1303. French monk and jurist; patron of lawyers.

ALEUCUS. Fl. 7th century B.C. Greek legislator and reformer; first to make a written code of laws.

Zamoyski, John Sarius. 1541-1605. Polish general, statesman and scholar.

Zechariah. Fl. 6th century E.C. Hebrew prophet.

Zelotti, Battista. 1532-1592. Italian painter.

Zeno (or Zenon). 355?-307? B.C. Greek philosopher; founde of the school of Stoics.

Zeno (or Zenon). 495-...? Greek philosopher.

Zeno. ...-491. Emperor of the East.

Zenobia, Septimia.-275. Queen of Palmyra. Beautiful, learned, and possessed of a warlike and masculine temper. Her dominions extended from the Mediterranean to the Euphrates, and included a large part of Asia Minor. Defeated by Aurelian, she retired to Italy.

Zephaniah. Hebrew prophet, who flourished in the reign of Josiah. Foretold the destruction of Jerusalem.

Zeuxis. 450-....? Greek painter.

Zhukovaky, Vasili Andreevitch. 1783–1852. Russian poet.
 Zimmerman, Johann Georg von. 1728–1795. Swiss physician and philosopher. On Solitude.

Zinzendorf Nicolaus Ludwig von, Count. 1700-1760. German theologian; restorer of the sect of Moravians.

Ziska, John, of Trocznow. 1360-1424. Bohemian general and leader of the Hussites.

Zoega, Georg. 1755-1809. Danish archæologist.

Zollicoffer, Felix K. 1812-1862. American general.

Zoroaster. Fl. 1500 B.C. Persian philosopher and founder of the Magian religion.

Zschokke, Johann Heinrich Daniel. 1771-1848. German author.

Zuccaro, Federigo. 1543-1609. Italian painter.

Zwingle, Ulrich. 1484-1531. Swiss reformer; killed in battle. Exposition of the Christian Faith.



The World's Progress as shown in an Alphabetical Record of Notable Events and Discoveries.

Air-Balloons invented by Gusmac, a Jesuit, in 1729. Revived in France by M. Montgolfier, in 1783.

Air-Guns invented by Guhr, of Nuremberg, in

Air-Pumps invented in 1650.

Algebra known in Europe in 1300; in general

Almanacs first published in 1470, by Martin Hkus, at Buda. The first almanac in England was printed at Oxford, in 1673.

Alien and Sedition Acts passed by Congress in 1798; expired, by limitation, Jan. 26, 1801.

Alphabet. The Ionic alphabet was introduced 399 years before Christ. Before this time the Greek letters were but sixteen in number.

Anæsthesia discovered 1844.

Anchors invented in 587.

Anti-Slavery Society (American) organized Dec. 6, 1833, at Philadelphia.

Argand Lamps invented by Aimé Argand, of Geneva, about the year 1782.

Arquebus introduced about 1520, and remained in use until after 1567, when the matchlock supplanted it. In 1630 the flint lock was invented, and the musket was introduced.

Banking. The first bank in Europe was the Bank of Venice, 1171. The Bank of England was established in 1694, the Bank of North America, 1781.

Barometers invented in 1626; wheel barometers in 1668, phosphoric in 1675, pendant in 1695, and marine in 1700.

Battering-Ram invented 441 years before

Bayonets invented at Bayonne in 1670. First used in England in 1693. At first these had wooden handles fitting into the guns, but in 1699 the socket bayonet was introduced.

Bellows.—Strabo informs us that the invention of bellows is due to the Scythian philosopher, Anacharsis, who lived in the time of Solon.

Anacharsis, who lived in the time of Solon.

Bells invented by Paulinus, bishop of Nola, in Campagnia, in or about the year 400. They were first used in France in 550, in Greece in 864, and in the churches of Europe in 900. In Switzerland they first appeared in 1020.

Blankets first made in England in 1340.

Blood, circulation of, discovered in 1619.

Blue (Prussian) first made in Berlin, in 1704.

Bombs invented at Venlo, in 1588, and used first in the service of France in 1634. Books, in their present form, were invented by Attalus, king of Pergamus, in 887.

Boots invented 907 years before Christ.

Boston Fire Nov. 9, 1872. Loss, \$73,600,000. Bread first made with yeast by the English about

Bricks first used in England by the Romans. In 1625 their regular size was fixed by Charles I.

Bridges. The first bridge of stone in England was that built at Bow, near Stratford, in 1087.

Buckles invented about 1680.

Bullets of stone used in 1514. Iron bullets first mentioned in 1550.

Bullion (Assaying of) introduced in 1354.

Bullion (Assaying of) introduced in 1354.
Butter.—The first mention of butter is that of Herodotus, who, in describing the Scythians, says: "These people pour the milk of their mares into wooden vessels, cause it to be violently stirred or shaken by their blind slaves, and separate the part that arises to the surface, as they consider it more valuable than that which is collected below it." Soon after the death of Hippocrates, we read that the Greeks thought the butter which the Thracians are a wonderful kind of food. The ancient Ethiopians appear to have used butter as food. The ancient Germans were butter-makers.

Calion-Puinting, and the Dutch-loom engine.

Calico-Printing and the Dutch-loom engine

Camera Obscura invented by Baptista Porta,

Canal.—The first English navigable canal was finished in 1134.

Candles of tallow took the place of prepared splinters of wood in 1290.

Cannon invented in 1330. First used by the English in 1346, used first in England in 1445; in Denmark in 1354; by the Spaniards in 1406. The first iron cannon were made in England, in

Caps first worn in 1449.

Cards invented for the amusement of Charles VI.,

Carriages introduced in England in 1580; in Vienna in 1515.

Chain Shot invented by De Wit, Dutch Admirai, in 1666

Chess invented 608 years before Christ.

Chicago Fire, Oct. 8-11, 1871. Loss, \$290,000,000; about 250 persons perished, and 98,500 rendered destitute; 25,000 buildings destroyed.

Chimes on Bells invented at Alvest in 1487. Chimneys first introduced in England in 1200, but at first only in the kitchen or large hall.

China made at Dresden, in Saxony, in 1706; at Chelsea (England) in 1752; by Mr. Wedgwood in 1762.

Civil Rights Bill passed by Congress 1866.

Civil Service Reform Bill introduced in congress Jan. 20, 1867. Act for rules to be prescribed by the President for civil service examinations passed March 3, 1871, and commissioners for that purpose appointed June 28, with G. W. Curtis as chairman.

Clay's Compromise, tariff, 1833; slavery, 1850. Clocks, called water-clocks, were first used in Rome 158 years before Christ. Clocks and dials were first put up in churches in 913. In 801 clocks were made to strike the hours by the Arabians, and by the Italians in 1300. A striking-clock was used at Westminster in 1368. The first portable striking-clock was made in 1530. Richard Harris, of London, invented clocks with pendulums about 1641. To distinguish these from dials, they were first called sun"mocturnal, or night-dials." Repeating clocks and watches were invented by a maker named Barlow in 1676. Clay's Compromise, tariff, 1833; slavery, 1850.

Coaches. Covered carriages appear to have been used by the old Romans. In the year 1588, Duke Julius of Brunswick published an act

against riding in coaches. Philip II, of Pomerania-Stettin, published a similar document in 1608. Coaches appear to have been used in France very early. An ordinance of Philip the Fair, issued in 1294, for suppressing luxury, forbids citizens' wives to ride in coaches. Coaches were first used in England in 1265, the first being that made for the Earl of Rutland. In 1601 an that made for the Earl of Rutland. In 160r an act was passed to prevent men riding in coaches, on the score of its effeminacy. Coaches began to be common in 16.5, and were petitioned against by the saddlers and others. Hackney coaches introduced in 1634. In 1661, a stage coach was two days going from London to Oxford, and the "Flying Coach" was thirteen hours, even in summer weather, when the roads were at their hest.

Coal first dug for fuel in 1234.

Coal first dug for fuel in 1234.

Coin. Silver was first coined by Phidon, King of Argos, 869 B.C. In Rome, silver money was first coined 269 B.C. Gold and silver coins first used in the East. Coin first used in Britain 25 B.C., and in Scotland not until 248 years later. In 1101, round coins were first used in England. Silver halfpence and farthings were coined in the reign of John, and pence were the largest current coins. Gold was first coined in England in 1687; in Bohemia in 1301. In 1531, groats and half-groats were the largest silver coin in England. Gold was first coined in Venice in 1366. Shillings were first coined in Venice in 1366. Shillings were first coined in England in 1068. Crowns and half-crowns were first coined in 1551. Henry III introduced copper money into France in 1580. Copper money introduced into England by James I in 1602. The process of milling coin introduced in 1662. The mint of the United States of America was established in 1793.

Coining with a die first invented in 1617, and first used in England in 1620.

Compass (Mariner's) invented in China 1120 B.C.; used in Venice 1260; improved at Naples in 1302. Its variations observed in 1500; its dipping in 1576.

Copyright. The copyright law was first passed by Congress in 1791, the term being made four-teen years; amended, and term extended to 28 years, with renewal for 14 more, in 1831.

Cotton. The first raised in the United States was in 1621, in Virginia; first exported from U.

Cotton Gin invented in 1793, by Eli Whitney. Culverins first made in England in 1534.

Daguerreotypes first made in France, 1839. Declaration of American Independence, 1776; recognition, 1782.

Delf (or Delft) earthenware invented at Firenze

Diamonds first cut and polished at Bruges in1489. Dice invented 1500 B.C.

Dipping Needle invented by Robert Norman,

Distilling first practiced in 1150.

Diving-Bell. This machine appears to have been known in 1509, and repeated mention of its use occurs in historical chronicles from that date.

Electric Light. Invented at London, in 1874, by two Russians, Lodyguin and Kosloff. The

Jablochkoff candle proved successful in 1878 in lighting the streets of Paris. In the United States, the Sawyer-Man light appeared in 1878, and Edison began his experiments in electric lighting in the same year.

Emancipation Proclamation. January 1,

Engraving on metal invented in 1423; on copper in 1511. Improved process introduced by Prince Rupert of Palatine in 1648. Engraving process for tints invented by Barable, a Frenchman, in 1761. Engraving on wood invented at Flanders in 1423, and revived in 1511 by Albert Durer. Engraving on glass invented at Paris in 1420, by Roedier. Durer. Engravin

Envelopes for letters were first used in 1839.

Etching on copper with aqua fortis was introduced in 1512.

Rther was first used in surgical operations in

Express. The first American express was operated between New York and Boston, in 1821, by W. F. Harnden.

False Hair introduced by the courtesans in Italy, and first brought into England from France in 1572.

Fenian Raids into Canada, May 31. 1866; resumed February 3, 1870.

Filibustering raids of Wm. Walker, 1853-60

Fire Engines, to force water, existed in very ancient times. The first of the kind now in use. ancient times. The first of the kind now in use, but of a vastly inferior character, was invented by two Dutchmen, each named Jan van der Heide, at Amsterdam, in 1518. In 1657 an improved engine was introduced at Nuremberg by John Hantsch. Fire-engines were first known at Paris in 1699. The first volunteer fire compared to the control of the control John Hamsen. The first volunteer fire company in America was the Union of Philadelphia, about 1736.

Flag. The American flag was first used by Washington at Cambridge, January 1, 1776.

Fortification. The present mode introduced

about 15.51.

Forks are, comparatively speaking, quite a modern invention. They were first known in Italy toward the end of the 15th century. They began to be known in France by the end of the 16th century. Introduced in England in 16.8.

Free Soil Party. The first national convention was held at Buffalo, Aug. 9, 1848.

Fugitive Slave Law passed by Congress.

Gamut in music invented by Guy L'Aretin in

Gas was first evolved from coal by Dr. Clayton in was first evolved from coal by Dr. Clayton in 1730. Its first application, as an illuminating medium, was made by Mr. Murdoch, in Cornwall, England, in 1793. Sir H. Davy, before a committee of the House of Commons, declared it was not practicable to light London with gas. The first display of gaslight was in Birmingham, on the occasion of the peace rejoicings of 1802. It was introduced for lighting the shops and streets of London, generally, in 1814. In the United States it was introduced in 1822, in Boston.

Gilding, with gold leaf, invented in 1273.

Glass introduced into England, by Benedict, a monk, in 674. First used in England, for bottles, etc., in 1557. The first plate-glass, made at Lambeth, in 1673. Window glass first made in England in 1557.

Grist Mills invented in Ireland in 214.

Gunpowder was invented by the monk Schwartz in 133., although used by the Chinese A.D. 85. The Byzantines used Greek fire A.D. 668.

Guns invented in 1330; used by the Moors at the siege of Algeciras, in Spain, in 1342; at the battle of Crecy in 1346, and at the siege of Calais in the year following. Adopted by Denmark in 1334; used by the Venetians, at sea, against the Genoese, in 1377. First used by the Spanish in 1406. The early English guns were first made of brass in 1635; in 1547 they were made of iron. Bombs and mortars were invented in 1543.

Hartford Convention (anti-war), Dec. 15, 1814. Handkerchiefs were first manufactured at Pais-ley, in Scotland, in 1743.

Heraldry originated in the year 1100.

Homosopathy was introduced into the United States in 1825.

Horseshoes. Although the ancients protected the hoofs of their horses with some covering, horseshoes, of the kind now known, were not in general use until the ninth century.

Hour-Glasses invented in Alexandria 240. Hydrometer. The oldest mention of this in-strument belongs to the 5th century, but its invention has been attributed to Archimedes.

Infallibility. The dogma of Papal Infallibility promulgated in 1870.

Inoculation for small-pox, first tried on criminals in 1721. Vaccine discovered by Dr. Jenner in 1796.

The first fire insurance office in Ingurance. America was in Boston, 1724. The first for life insurance in London, 1772; the first American, in Philadelphia, in 1812. Marine insurance dates back to 1598 in England, and to 1721 in America.

Interior Department established March 3,

Jesuits. The order was founded by Ignatius Loyola in 1541.

Judiciary Act passed by Congress Feb. 13,

Knitting Stockings invented in Spain about

Knives were first used in England about 1550.

Know-Nothing Party (American) arose in New York in 1853. National platform adopted and candidate for the Presidency (Fillmore) in 1856.

Lace. The knitting of lace is a German inven-tion, first known about the middle of the 16th century

Lamp (Sir Humphry Davy's safety) for preventing explosions by fire damp in coal mines,

Lantarns invented by Alfred the Great 800. Leyden Jar invented in 1745

Liberty Party, national convention at Buffalo, Aug. 30, 1843.

Library. The oldest American library is that of Harvard College, Cambridge, 1638. The first subscription library was established at Philadelphia in 1731.

Lightning-rods were first used by Benjamin Franklin about 1752.

Life-Boats invented by Greathead, who received a premium from Parliament in May, 1802.

Linen when first made in England was regarded as a great luxury, and was very costly. A com-

as a great luxury, and was very costly. A com-pany of linen-weavers from the Netherlands was established in London in 1386.

Lithographi Printing first brought into Eng-

Magic Lauterns invented in 1252.

Magna Charta signed 1215.

Magnifying-Glasses first made in England by Roger Bacon 1260.

Maps and Globes invented by Anaximander 600 B.C. Marble Paper. A G.rman invention belonging

to the 17th century. Matches. Friction matches first used in 1829.

Mecklenburg county, N. C., Declaration of Independence issued May 31, 1776. Medicinal Simples first brought into Europe,

from the East, in 1200. Microscopes first used in Germany in 1621. Im-Torricelli in 1624.

Military Academy, West Point, founded by Congress March 16, 1802.

Missouri Compromise passed March 3, 1820, and repealed May 24, 1854. It restricted slavery to south of 36° 30'.

Mirrors (Silvering) invented by Praxiteles 228 years B.C.

Monroe Doctrine declared in the message of President Monroe, Dec. 2, 1823. Mormons arrived at Salt Lake Valley, Utah,

Musical Notes invented in 1070; improved 1330; printed 1502.

Nautes, Edict of, tolerating Protestants, issued April 13, 1598; revocation, Oct. 22, 1685.

Needles first made in England by a native of India in 1545; re-invented by Christopher Greening in 1560.

Metherlands, revolt of, 1565 to 1580.

New Orleans, Battle of, Jan. 8, 1815, Jackson defeating the British. Captured by Farragut April 26, 1862.

April 26, 1862.

Newspaper. The first authentic newspaper was printed in 1494; first daily, Frankfort Gazette, 1615. The first English was the Weekly Newes, 1622; the first in France, Gazette de France, 1631. The first advertisement appeared in 1648. The first American newspaper was printed in Boston, Sept. 25, 1690, and was called Publick Occurrences, Foreign and Domestic. The first continuously printed in America was the Boston News Letter, 1702; first daily, The Pennsylvania Packet, 1784.

Nullification Ordinance passed by South Carolina Nov. 19, 1832. The proclamation of President Jackson denouncing the same was issued Dec. 10, 1832.

Omnibuses were first used in New York in 1830. Organs were invented in 750.

Ostend Manifesto, issued Oct. 21, 1854.

Paper Hangings. The invention of hangings of paper to take the place of other more costly hangings, has been attributed to a manufacturer nangings, has been attributed to a manufacturer of paper hangings, named Breitkopf, of Leipsic. That kind known as velvet-paper is said to have been invented by Jerome Lanyer, an Englishman, who received a patent for it in 1634, although the invention has also been claimed for Francois, a Frenchman, who is asserted to have introduced it at Rouen in 1620.

Paper made of cotton, in use in 1000. Made of inen rags in 1319. First introduced in England in 1588. White paper first made there in 1690. Paper was made from straw in 1800.

Paper Money first used in America in 1740, and

Parchment invented by King Attalus, of Pergamus, 857 B.C.

Patent Right Law first enacted in U.S., April

Paving with Stones first introduced at Paris

Philadelphia was founded by William Penn in Riots, native American and Irish, May 6 1682. Kio to 8, 1844.

Penny Post introduced for London and its suburbs by an upholsterer named Murray in 1681. Adopted by the government in 1711. First set up in 1794, in Dublin. Carried out on an enlarged scale in 1794, and made a twopenny post in 1801.

scale in 1794, and made a twopenny post in 1801.

Pens. The style, or point or bone and metal, which was used for writing on tables coated with wax, gave place to the reed, pointed and split, and used as a pen with some colored liquids. These were gradually abandoned in favor of quills. The first known record of quills being used for pens is that of Isidore, who died in 636 but supposed to have been introduced at an earlier date. The substitution of steel for quill sens treat place are the substitution. pens took place early in the present century, yet, strange to say, nothing is known with certainty of the person who first invented the metallic pen.

Phonograph invented in 1877 by T. A. Edison. Phosphorus first made in 1677.

Photographs were first produced in England in 1802; perfected in 1841.

Pianoforte invented about 1710 in Italy,

Pilgrims landed at Plymouth, Mass., Dec. 21, 1620, although the date is commonly given as Dec. 22.

Pins were brought from France, and first used in England by Catherine Howard, Queen of Henry VIII. Before that time both sexes used ribbons, loop-holes, laces with points and tags, hooks and eyes, and small skewers made of gold, silver, and bases. Pine were first made however. Pins were first made by machinery in America in 1832.

Pipes of Lead, for water, first cast in 1539. Pistols first used by the cavalry in 1544.

Pitch and tar first made from pit coal at Bristol

Plaster of Paris. Casting with it from the

Porcelain of Saxony greatly improved in 1767.

Port-Holes introduced for ships of war in 1545. Post-Office first established between Vienna and Brussels in 1516. Posts established regularly between London and all the principal towns throughout England in 1635. Postage stamps were introduced in England in 1840; in the United States in 1847.

Pottery improved greatly by Wedgwood in

Printing. The Assyrians and Babylonians used clay tablets, and wooden blocks were used by the Chinese as early as 952. Printing from movable types was invented by Faust in 1441, and made public by Gutenberg in 1454, although the invention is also claimed for L. Koster of Haarlem as early as 1423. The first Bible was printed by Faust and Schöffer in 1456, and they also printed the first book with date, a Latin Psalter, in 1457. Wooden type first introduced into England, by William Caxton, a London merchant, in 1477. The first English press was set up in Westminster Abbey, where it remained until 1494. The first American book, "Escala Espiritual," was printed by Juan Hablas, Mexico, about 1535. The first press in the United States was that of Stephen Daye, at Cambridge, Mass., 1630. Printing in colors was first introduced in 1626.

Pyramids first erected about 2170 B.C.

Quicksilver first used for refining silver ore in

Railroad. The first passenger railroad was opened in England Sept. 27, 1825; the first in America, Baltimore and Ohio, 1828, although freight was moved by rail at the granite quarries of Quincy, Mass., as early as 1826. The first steam railroad was operated in the United States in 1830, from Albany to Schenectady—16 miles.

Reformation in Germany, 1517: in England.

Republican Party. The first held at Pittsburgh, Feb. 22, 1856. The first convention was

Resumption of Specie Payments in the United States—Act approved 1875; took effect Jan. 1, 1870.

Ribbon Looms. It has been asserted that these looms were first known to the Swiss, but others claim their invention for a German in the town of Dantzie in the 16th century.

Buling-Machines invented by a Dutchman in London in 1792.

in London in 1792.

Saddles. Pliny informs us that one, Pelethronius, was the first to introduce a piece of leather fastened to the back of a horse for the accommodation of its rider. For a long time these cloths and pieces of leather were regarded as unmanly, and were, therefore, regarded by soldiers with great scorn. The old German races despised the Roman cavalry for riding on such effeminate contrivances. Saddles of the kind now used appear to have been in use in 385. Side-saddles first used in 1380. Previous to their introduction women always rode astride.

Satloldth first made in England in 1500.

Sailcloth first made in England in 1590.

Salting Herrings after the Dutch method first used in 1416.

Saltpeter first manufactured in England, in 1625. Saws. The inventor of the saw is said, by the old Greek writers, to be Talus or Perdox. Pliny ascribes the invention to Deedalus, but Hardouin affirms that the passage in which he does or efers to Talus, and not to Deedalus. Talus was the son of a sister of Dædalus, and the invention is said to be due to his using the jawbone of a snake to cut through a piece of wood. His master grew jealous of the honor Talus won by this in-vention, and caused him to be privately put to death.

Sedan Chairs introduced into England in 1734. Sewing Machine first patented in England, in 1755. The first complete machine was constructed by an American, Elias Howe, in 1846.

Sextant invented by Tycho Brahe, at Augsburg,

Shay's Rebellion, in Massachusetts, 1786-87. Sleeping-Cars were first used in 1858. Pull-man's patent dates from 1864.

Soap first made in London and Bristol in 1524 The first express mention of soap appears in Pliny and Galen. The former speaks of it as an invention of the Gauls.

Speaking-Trumpets invented by Kircher, a Jesuit, in 1652.

Spinning-Wheel invented at Brunswick, 1530. Spectacles invented by Spina, a monk, of Pisa,

Stamp Act enacted March 22, 1765; repealed March 19, 1766.

Statutes of the United States first revised and codified in 1873.

codified in 1873.

Steam. The steam engine boiler was discovered by the Marquis of Worcester, in 1663. Newcommen's engine was patented in 1705, and the invention was perfected by James Watt, in 1773. The high pressure engine was invented by an American, Oliver Evans, in 1779. The first steam vessel of which there is any record was that of Papin (France), in 1707. Then follow those of Jonathan Hulls (England), 1736; William Henry (Conestoga river, Pa.), 1763; James Rumsey (Md.), 1786; John Fitch (Delaware river), same year. In 1866 Robert Fulton constructed the Clermont, which plied regularly between New York and Albany, at a speed of five miles per hour. The first steamer crossing the Atlantic made the voyage from Savannah to Liverpool in twenty-five days, A.D. 1819.

The invention of steel is of very great an-The invention of steel is of very great air-tiquity, as the process of hardening iron is de-scribed in the Old Testament (Isaiah xliv, 12). The helmet of Hercules, described in Hesiod, appears to have been of steel. Homer refers to the process of hardening steel by immersing it, while red hot, in cold water.

Stereotype Printing invented by William Gid, a goldsmith, of Edinburgh, in 1735.

Stirrups, according to a statement made by the Emperor Mauritius, were first used in the 6th century. Hippocrates and Galen speak of a disease which, in their time, was occasioned by long and frequent riding, because the legs hung down without any support.

Sugar is first mentioned in 625 by Paul Eginetta, Sugar is first mentioned in 625 by Paul Eginetta, a physician. It came originally from China and the East; was produced in Sicily in 1148, in Madeira in 1419, in the Canary Islands in 1503, and in the West Indies by the Portuguese and Spaniards in 1510. In 1641 it was cultivated at Barbadoes. Sugar-refining was first carried out by a Venetian in 1503, and this process was adopted in England in 1569. Sugar cane was first cultivated in the United States in 1751, near New Orleans, the first sugar mill being constructed in 1758.

Sunday Schools were first established by Robert Raikes, Gloucester, England, in 1781.

Sun-dials invented 558 B.C. The first in Rome, 308 B.C., was that erected by Papirius Cursor, when time was divided into hours.

Tanning Leather. A new and more expeditious method than that previously in use was invented in 1795.

Tax. The first tax levied on the people was by Solon, 549 B.C.

Tea first known in Europe in 1610, being brought from India by the Dutch.

Telegraphs (mechanical) invented in 1687. First used by the French in 1794, and by the English in 1796. The first electric telegraph was operated

from Paddington to Drayton, England, in 1835, the same year in which Morse's telegraph was invented. The first telegraph line in operation in America was between Baltimore and Washington in 1844. The first submarine cable was laid in 1851, between Dover and Calais, and the first Atlantic cable was operated in 1888.

Telephone. A. Graham Bell first presented a speaking telephone at the Centennial Exposition, Philadelphia, in 1876.

Telescopes. The first reflecting telescope made on the principle discovered by Sir Isaac Newton in 1692.

Thread first made at Paisley in 1722.

Thermometers first invented by Drebel, a Dutchman, in 1620; improved by Reaumur in 1730, and by Fahrenheit in 1749.

Tobacco was first introduced into England, from Virginia, in 1583.

Union of England and Scotland, 1707; Great Britain and Ireland, 1801.

Vaccination. See Inoculation.

Ventilators first introduced by the Rev. Dr. Hales in 1740.

Violins of the modern kind invented about 1477. Introduced into England by Charles II.

Wall-papers first used in Spain and Holland in lock or velvet wall-papers were first used 1555. I

War Ships. In 1814 Sir Robert Seppings introduced various most important improvements for the construction of war ships. The lower parts of the frames of ships of war were then for the first time, filled in, a system of diagonal trussing was introduced, the stern was altered in form, so that it no longer remained open to the fire of an enemy, and the upper decks were enlarged. Sir W. Symonds altered them so as to decrease the quantity of ballast required in 1832. In the International Exhibition of 1851 various improvements in this direction were shown, but great iron-cased ships were not then thought of. In July, 1854, the first of a new class of screw, gun vessels was launched for use during the Russian war. To operate with these, vessels of iron were constructed to bombard the fortresses in the Baltic. The first French iron-cased ship was a frigate called the "Gloire," and this was quickly followed by the first English ship of that kind, the "Warrior." Since then vessels of this kind have been subject to a variety of alterations and experiments tending to improve both their steams and the present and their stalling qualities. War Shing. In 1814 Sir Robert Sennings inthis kind have been subject to a variety of alterations and experiments tending to improve both their strength and their sailing qualities. The first battle between iron ships of war occurred in the war for the Union, the Merrimac and Monitor being the contestants.

Watches were invented at Nuremberg in 1477, and were first introduced into England from Germany in 1577.

Water Mills for grinding corn are said to have been invented by Relisarius when Rome was be-sieged by the Goths in 555. Pliny, however, mentions wheels turned by water.

Weather-Cocks. The earliest mention of a weather-cock is that made by Vitruvius, con-cerning that on the tower built at Athens by Andronicus Cyrrhestes

Wild-Fire invented by a Greek in 663.

Wilmot Proviso, to restrict slavery, offered in the House of Representatives, Aug. 8, 1846, by David Wilmot, of Pa.

Wire invented at Nuremberg in 1251.

Wire-Drawing. The first record we have of this art is probably that contained in Holy Writ, where we are told that gold was beaten and cut to threads, so that it could be interwoven in cloth. The present mode of forming metallic threads, that known as wire-drawing, was first known in the 14th century.

Woolen Cloth. Although the making of woolen cloth is one of the most ancient arts, its manufacture was not known in France until 1646, when it was made at Sedan. It was first made in England in 1331, but was not dyed or dressed until 1667.

Yellowstone National Park established by Act of Congress, Feb. 28, 1871.



Heroes and Heroines of Prose and Poetry.

my all some



The name of the character is given in black letter; the name of the author and of the work from which the character is taken, in italic.

Abdiel. Paradise Lost, Milton. The faithful angel who opposed Satan in his re-

Abigail. The Bible. A waiting-maid. Ablewhite, Godfrey. Moonstone, Wilkie Collins. A disreputable spy.

Abou Hassan. Arabian Nights. An Arab who was made to believe himself Caliph.

Absalom. 1. The Bible. The son of David, King of Israel. 2. Absalom and Achitophel, Dryden. A pseudonym for the Duke of Monmouth, an illegitimate son of King Charles II.

Absolute, Captain. The Rivals, Sheridan. The hero of the comedy, the gallant and fortunate lover.

Absolute, Sir Anthony. The Rivals, Sheridan. Father of Captain Absolute, a very irascible and absolute old gentleman.

Achitophel. Absalom and Achitophel, Dryden. The pseudonym for the Earl of Shaftesbury.

Acres, Bob. The Rivals, Sheridan. A cowardly boaster, the butt of the comedy.

Acrasia. The Faery Queen, Spenser. An old witch, the personification of Intemperance.

Adam, Bell. Reliques, Percy. A cele-

Adams, Parson. Joseph Andrews, Field-g. An eccentric, good-natured clergyman. Adriana. Comedy of Errors, Shakspere.
The wife of Antipholus.

Aguecheek, Sir Andrew. Twelfth Night, Shakspere. A coward and a fool.

Night, Shakspere. A coward and a tool.

Aladdin. Arabian Nights. The owner of a magic lamp and ring, which gave the possessor every wish he made.

Allworthy, Squire. Tom Jones, Fielding. A good-natured old country gentleman.

Alp. The Siege of Corinth, Byron. A brave and devoted man.

Amadis de Gaul. Amadis de Gaul. The hero of a Portuguese chivalric romance, the authorship of which is unknown. It was translated into every language in Europe.

Amelia. Amelia, Fielding. A lovely woman, supposed to be drawn from Fielding's own wife.

Amine. Arabian Nights. A wicked sor-ceress who changed her three sisters into hounds.

Amlet, Richard. The Confederacy, Van-burgh. A gambler.

Amri. Absalom and Achitophel, Dryden. Pseudonym for H. Finch.

Andrews, Joseph. Joseph Andrews, Fielding. A hero ridiculously upright and Dure.

Anerley, Mary. Mary Anerley, Black-more. A lovely and beautiful girl.

Apemantus. Timon of Athens, Shaks. pere. A cynic.

Arden, Enoch. Enoch Arden, Tennyson. A sailor, supposed drowned, who returns home to find his wife married again.

Argante. The Facry Queen, Spenser. A giantess.

Ariel. The Tempest, Shakspere. A spirit of the air, perhaps the daintiest creation of the myriad-minded poet.

Artful Dodger. Oliver Twist, Dickens.
. young thief who understands his business.

Arthur, King. Idyls of the King, Tennyson. A legendary British King, who established an order of chivalry known as the
Round Table, and about whom many popular legends are affoat in Wales and Western
France.

Ashton, Lucy. The Bride of Lammermoor, Scott. A beautiful character, loved and lost by Ravenswood.

Atalanta. Atalanta in Calydon, Swin-burne. One of Diana's maidens.

Autolycus. Winter's Tale, Shakspere. An intellectual sneak-thief.

Baba, Ali. Arabian Nights. The hero of the tale of the forty thieves, who breaks into the robbers' cave by means of the magical pass-word "Sesame."

Baba, Cassim. Arabian Nights. Brother of the above, who forgets the pass-word, and is captured by the robbers.

Backbite, Sir Benjamin. School Scandal, Sheridan. A scandal-monger. School for

Bagstock, Joe. Dombey and Son, Dick-us. A pompous fellow.

Bailey, Young. Martin Chuzzlewit, Dickers. A precocious youth.

Balderstone, Caleb. Bride of Lammer-noor, Scott. The butler of Ravenswood.

Balthagar. 1. Comedy of Errors, Shaks-pere. A merchant. 2. Much Ado about Noth-ing, Shakspere. A servant.

Banquo. Macheth, Shakspere. A chieftain murdered by Macheth; later in the same play,

Bardell, Mrs. Pickwick Papers, Dickers. Mr. Pickwick's landlady, who sues him for breach of promise of marriage.

Bardolph. Henry IV., Shakspere. A follower of Sir John Falstaff.

Barkis. David Copperfield, Dickens. A marrying man who eventually marries.

Bath, Major. Amelia, Fielding. A pompous officer.

Bayes. The Rehearsal, Duke of Bucking-ham. A pseudonym for Dryden.

Baynes, Charlotte. Adventures of Philip, Thackeray. The hero's sweetheart. Bede, Adam. Adam Bede, George Eliot.

An ideal workingman.

Belch, Sir Toby. Twelfth Night, Shaks-pere. Olivia's hard-drinking uncle.

Belford. Clarissa Harlowe, Richardson.
The friend of Lovelace.

Belinda. Rape of the Lock, Pope. The heroine, whose hair is cut.

Bell, Laura. Pendennis, Thackeray. One of the sweetest heroines in English literature.

Bell, Peter. Peter Bell, Wordsworth. An extremely prosaic man.

Bellaston, Lady. Tom Jones, Fielding. One of Tom Jones' sweethearts.

Bellenden, Lady. Old Mortality, Scott. A Tory gentlewoman.

Belphoebe. The Facry Queen, Spenser. A pseudonym for Queen Elizabeth.

Belvidera. Venice Preserved, Otway. The heroine of the poem.

Benedict. Love's Labor Lost, Shakspere. A confirmed bachelor who was converted to matrimony by the lovely Beatrice. From this gentleman comes the name Benedict applied to married men who were not going to marry.

Bennet, Mrs. Amelia, Fielding. An improper character.

Benvolio. Romeo and Juliet, Shakspere. One of Romeo's friends.

Bertram. All's Well That Ends Well, Shakspere. The hero of the play, who mar-ries Helen.

Bianca. Othello, Shakspere. Cassio's sweetheart.

Birch, Harvey. The Spy, Cooper. The chief character of the novel.

Bilfil. Tom Jones, Fielding. Allworthy's nephew, a tale-bearer.

Blember, Miss Cornelia. Dombey and Son, Dickens. A blue-stocking governess. Bonbdil, Captain. Every Man in His Humor, Johnson. A boasting coward.

Boeuf, Front de. Ivanhoe, Scott. One of King John's followers. A ferocious scoundrel.

Boffin, Noddy. Our Mutual Friend, Dickens. The good-natured occupant of Boffin's Bower.

Bois Guilbert, Brian de. Ivankos, Scott. The master of the Knights Templars.

Boniface. The Beaux' Stratagem, Far-guhar. A landlord. Hence applied to land-lords generally.

Booby, Lady. Joseph Andrews, Fielding. One of the minor characters.

Booth. Amelia, Fielding. The hero of

Bottom, Nick. A Midsummer Night's Dream, Shakspere. A ridiculous weaver with who.a Titania, the queen of the fairies, is forced to fall in love by a charm.

Bounderby, Josiah. Hard Times, Dickens. A prosaic, matter-of-fact manufacturer.

Bowles, Tom. Kenelm Chillingly, Bul-

Bowline, Tom. Roderick Random, Smollett. A sailor whose name has been applied to mariners ever since.

Box and Cox. Box and Cox, Morton, The heroes of the farce.

Bradwardine, Baron. Waverly, Scott. The father of Rose Bradwardine.

Bramble, Matthew. Humphrey Clinker, Smollett. A walking epitome of dyspepsia. Brangtons. Evelina, Miss Burney. Very

Brass, Sally and Sampson. Old Curiosity Shop, Dickens. A shystering lawyer and his sister.

Brick, Jefferson. Martin Chuzzlewit, Dickens. A ridiculous American editor.

Bridgenorth, Major Balph. Peveril of the Peak, Scott. A prominent officer in the Puritan Army.

Bridget, Mrs. Tristram Shandy, Sterne. Tristram's nurse.

Brown, Tom. Tom Brown's School Days and Tom Brown at Oxford, Thos. Hughes. The hero of one of the best boys' books ever written in English.

Bucket, Inspector. Bleak House, Dickens. A detective.

Bumble. Oliver Twist, Dickens. A bea-

Calus, Doctor. Merry Wives of Windsor, Shakspere. Anne Page's Welsh lover. Caliban. The Tempest, Shakspere.

Prospero's monstrous servant. Candor, Mrs. The Rivals, A scandal-monger. Sheridan.

Carker. Dombey and Son, Dickens. A scoundrelly clerk. Cassio. Othello, Shakspere. Othello's lieutenant.

Caudle, Mrs. Curtain Lectures, Douglas Jerrold. An artistic scold.

Caustic, Col. The Lounger, Mackensie. A satirical gentleman. Colin. As You Like It, Shakspere. Rosalind's cousin.

Chadband. Bleak House, Dickens. A

Chamont. The Orphans, Otway. The hero of the play.

Chillingly, Kenelm. Kenelm Chillingly, Rulwer. The hero of the novel.

Christabel. Christabel, Coleridge. The heroine of the poem.

Christiana. Pilgrim's Progress, Bunyan. The wife of the hero Christian.

Chuzzlewit, Jonas and Martin. Mar-tin Chuzzlewit, Dickens. The first a miser and murderer, the second the hero of Dickens'

Clare, Ada. Bleak House, Dickens. The wife of Carstone, and one of the most important characters in the story.

Clifford, Paul. Paul Clifford, Bulwer. A beatified highwayman hero.

Clinker, Humphrey. Humphrey Clin-ker, Smollett. A philosophical young man who meets very singular adventures.

Collebs. Calebs in Search of a Wife, Hannoh More. A gentleman who has very precise ideas on the subjects of matrimony and woman.

Coldstream, Sir Charles. Used Up, Matthews. A fatigued and weary man of the

Consuelo. Consuelo, George Sand. The eroine of the novel, a rather inflammable young lady.

Copper Captain, The. Rule a Wife, and Have a Wife, Beaumont and Fletcher. A nickname applied to Peres, the boastful coward of the play.

Copperfield, David. David Copperfield, Dickens. The hero of the novel, supposed to be a picture of Dickens' own life and character.

Cordelia. King Lear, Shakspere. The faithful daughter of the King in the play.

Corinne. Corinne, Mme. de Stael. The heroine of de Stael's greatest work.

Costigan, Captain. Pendennis, Thackery. The father of Pendennis' first sweetheart, a hard-drinking but amusing old man. Coverly, Sir Roger de. Spectator, Ad-ison. A model country gentleman of the olden time.

Crane, Ichabod. Sleepy Hollow, Irving. The schoolmaster in the sketch.

Crawley, Rawdon. Vasity Fair, Thackeray. The hero of "the novel without a hero." The husband of Becky Sharp.

Cressida. Troilus and Cressida, Shaks ere. The heroine of the play, in love with pere. Troilus.

Crummles, Vincent. Nicholas Nickleby, Dickens. A theatrical head of a theatrical family.

Crusoe, Robinson. Robinson Crusoe, DeFoe. The hero of the most remarkable nevel ever written. It has been translated into every civilized language on the globe. The story relates Crusoe's adventures on a The story relates Crusoe's adventures on a desert isle upon which he was cast by the sea, and is one of intense interest.

Cuttle, Captain. Dombey and Son, Dickens. A nautical character who indulges in a number of queer mannerisms.

Cymbeline. Cymbeline, Shakspere. A heroic King of Britain.

Dalgarno, Lord. The Fortunes of Nigel, Scott. A Scottish nobleman of bad char-

Dalgetty, Dugald. Waverly, Scott. A famous and well drawn soldier of fortune, whose name has become proverbial.

Deans, Davie, Effic and Jeanic.

Heart of Midlothian, Scott. Famous characters in the story. Jeanie is the heroine.

Dedlock, Lady, and Sir Leicester. Bleak House, Dickens. Husband and wife, proud and unfortunate, but noble people. Delamaine, Geoffrey. Man and Wife, Collins. A man of muscle.

Delphine. Delphine, Mme. de Stael. The

Deronda, Daniel. Daniel Deronda, George Eliot. The hero of the novel, one of the best character sketches which George Eliot has made.

Desdemona. Othello, Shakspere. The unfortunate heroine of the play, wife of the Moor Othello.

Diddler, Jeremy. Raising the Wind, Kinny. The prototype of all modern dead-beats.

Dimsdale, Rev. Arthur. The Scarlet Letter, Hawthorne. The seducer of Hester

Dods, Meg. St. Roman's Well, Scott. A

Dodson and Fogg. Pickwick Papers, Dickens. Mrs. Bardell's attorneys in her suit against Mr. Pickwick.

Dogberry. Much Ado about Nothing, Shakspere. An absurd character who travestics justice.

Dombey, Florence, Mr. and Paul. Dombey and Son, Dickens. Characters in the

Dominie, Sampson. Guy Mannering, Scott. An eccentric clergyman.

Scott. An eccentric clergyman.

Don Quixote, Don Quixote, Cervontes.

The hero of the novel. This has been described by eminent critics as the best work of fiction which the world has yet produced. It was written in Spanish by Miguel de Cervantes, as a protest against the ridiculous extravagances of what are known as Chivalric Romances. Don Quixote is the type upon which thousands of later novels have been founded. Crazed by the reading of knightly

tales, he arms himself and goes out in search of adventures, on his steed Rozinante, and accompanied by his squire Sancho Panzo. These adventures are told so wittily, that the world has been laughing at them for centuries, and the book has never lost its fresh, boyish interest. The best English translation is Smollett's. Gustave Dore, the famous French artist, some years since completed a set of illustrations for Don Quixote, which have added greatly to its interest.

Dorn. David Copperfield, Dickens. Copperfield's child-wife.

Dorimant. The Man of Mode, Etherege.

Dorothea. Middlemarch, George Eliot. The heroine of the tale.

Dorrit, Edward and "Little." Little Dorrit, Dickens. The Father of the Marshalsea prison and his interesting daughter.

Drawcansir. The Rehearsal, The Duke of Buckingham. A bully.

Dulcinea del Toboso. Don Quixote, Cervantes. A country girl whom Don Quix-ote selects as his lady love.

Dundreary, Lord. Our American Cousin, Taylor. A typical and absurd English lord. The character was really created by the actor Sothern.

Edgar. King Lear, Shakspere. The son of Gloucester,

Emilia. Othello, Shakspere. Wife of Iago, the villain of the play.

Esmond, Beatrix and Henry. Henry Esmond, Thackeray. Heroine and hero of the novel, which is of the time of the English Revolution.

enia. The Return of the Native,
v. A beautiful and unfortunate girl. Engenia.

Evangeline. Evangeline, Longfellow. Heroine of the poem; her wanderings are told in verse that will never die.

Evans, Sir Hugh. The Merry Wives of Windsor, Shakspere. A Welsh clergyman. Evelina. Evelina, Miss Burney. Heroine

Eyre, Jane. Jane Eyre, Bronte. Heroine of the novel.

Fag. The Rivals, Sheridan. A servant.

Fagin. Oliver Twist, Dickens. The pre-eptor in the thieves' academy, where Oliver ceptor in the thieves' ac Twist is held a prisoner.

Faithful, Jacob. Jacob Faithful, Marryatt. The hero of the novel.

Falkland. The Rivals, Sheridan. A jealous lover of Julia's, and friend to Captain Absolute.

Absolute.

Falstaff, Sir John. Henry IV. and The Merry Wives of Windsor, Shakspere. This is Shakspere's most comic character; Queen Elizabeth was so pleased with Sir John in Henry IV. that, at her request, Shakspere composed The Merry Wives of Windsor, in order to give the fat knight a wider field for fun.

the Greenwood Tree. Fanny. Under the Greenwe Hardy. A pretty school-mistress.

Fat Boy, The. Pickwick Papers, Dickens. One of the minor characters in the novel, given to sleep and pie.

Faust. Faust, Goethe. The hero of the great German tragedy, who sells his soul to the Devil, and gets in return youth, wealth and an attendant devil, Mephistopheles. Goethe was to Germany what Shakspere was to England.

Felton, Septimius. Septimius Felton, Hawthorne. The mystical hero of the novel.

Ferdinand. The Tempest, Shakspere. Son of the King, falls in love with Prospero's daughter Miranda.

Ferrers, Endymion. Endym jamin Disraeli. Hero of the novel. Endymion, Ben-

Figaro. The Marriage of Figaro, Beau-parchais. An exceedingly comical and sharpwitted barber.

Firmin, Philip. The Adventures of Philip, Thackeray. The hero of the novel. Florizel. A Winter's Tale, Shakspere.

Florizel. A Winter The prince of Bohemia.

Fluellen. Henry V., Shakspere. A pedantic but brave Welsh officer.

Foker, Harry. Pendennis, Thackeray. One of the minor characters. Foppington, Lord. The Relapse, Van Brugh. An idiotic dandy.

Fosco, Count. Woman in White, Collins.

A complicated secundrel.

Frankenstoin, Frankenstein, Mrs. Southey.
The dreadful result of the labors of a German student, who makes a man in the dissecting room out of corpses and brings him to life by galvanism. The hideous hero of the novel galvanism. The hideous hero of the novel has a series of most blood-curdling adven-

Friar Tuck. Reliques, Percy. The jolly companion of Robin Hood, the outlaw of Sherwood Forest.

Friday. Robinson Crusoe, DeFoe. Crusoe's savage servant.

Gadgrind, Jeremiah. Hard Times, Dickens. A tyrannical "practical" man.

Gamp, Salry. Martin Chuzzlewit, Dickens. A comical and hard-drinking monthly nurse.

Gargantua. Gargantua, Rabelais. Hero of the tale.

Gaunt, Griffith. Griffith Gaunt, Reade. Hero of the novel.

Gay, Walter. Dombey and Son, Dickens. Marries Florence Dombey.

Gibbie, Goose. Old Mortality, Scott. A alf-witted boy.

Gil Blas. Gil Blas, Le Sage. The hero of a very famous novel. His adventures are of the most surprising character, and are told

in a most interesting manner.

Gilpin, John. John Gilpin's Ride, Cowper. The absurd hero of the poem.

Ginevra. Ginevra, Rogers. The heroine f the poem, accidentally locked in a trunk of the poem, accidentally locked in a trunk on her wedding day, and not found for years and years.

Gobbo, Launcelot. The Merchant of Venice, Shakspere. A merry servant.

Goneril. King Lear, Shakspere. The eldest daughter of the King, a traitor and an

Gonzalo. The Tempest, Shakspere. An old councillor.

Gosling, Giles. Kenilworth, Scott. A

Grandison, Sir Charles. Sir Charles Grandison, Richardson. Hero of the nove Gray, Vivian. Vivian Gray, Disraeli. Hero of the novel.

Grundy, Mrs. Speed the Plough, Morton. An old indy who represents worldly propriety and tale-bearing.

Gulliver, Lemuel. Gulliver's Travels, Swift. Hero of the romance.

Hamlet. Hamlet, Shakspere. melancholy Dane, hero of the play.

Harley. The Man of Feeling, Mackenzie. Hero of the novel.

Harlowe, Clarissa. Clarissa Harlowe, Richardson. Heroine of the novel.

Harris, Mrs. Martin Churelewit, Dickens. A fictitious person invented by Sairy Gamp, for the purpose of enforcing her statements by quoting the opinions of Mrs. Harris upon the subject under discussion.

Headstone, Bradley. Our Mutual Friend, Dickens. A schoolmaster in love with Lizzie Hexam.

Heep, Uriah. David Copperfield, Dickens. A hypocrite and sneak.

Helena. All's Well that Ends Well, Shakspere. Heroine of the play.

Hero. Much Ado about Nothing, Shaks-pere. Daughter of Leonato.

Hexam, Lizzie. Our Mutual Friend, Dickens. Heroine of the novel. Holofernes. As You Like It, Shakspere. A schoolmaster and pedant.

Holt, Felix. Felix Holt, George Eliot. Hero of the novel.

Honeyman, Charles. The Newcomes, Thackeray. A fashionable preacher. Honor, Mrs. Tom Jones, Fielding. Sophia Western's waiting-woman.

Hopeful. Pilgrim's Progress, Bunyan.

A pilgrim. Horatio. Hamlet, Shakspere. friend of Hamlet.

Howe, Miss. Clarissa Harlowe, Richardson. Clarissa's friend. Hudibras. Hudibras, Butler. Hero of

the poem. Hunter, Mr. and Mrs. Leo. Pickwick Papers, Dickens. Minor characters in the

novel.

Iago. Other of the tragedy. Othello, Shakspere. The villain

Imogen. Cymbeline, Shakspere. Heroine of the play.

Isabella. Measure for Measure, Shakspere. Heroine of the play. Ivanhoe. Ivanhoe, Scott. Hero of the

novel. Jack, Col. Col. Jack, DeFoe. The criminal hero of the tale.

Jaffier. Venice Preserved, Otway. Hero of the poem.

As You Like It, Shakspere. Jaques. The melancholy philosopher.

Jarndyce, John. Bleak House, Dickens. A benevolent old gentleman. Javert. Les Miserables, Hugo. A de-

Jessica. Merchant of Venice, Shakspere. Shylock's daughter.

Jingle, Alfred. Pickwick Dickens. An amusing adventurer. Pickwick Papers,

Kilmansegg, Miss. The Golden Legend, Hood. The golden-legged heroine of the poem.

Kitely. Every Man in his Humor, John-on. A jealous husband.

Lady Bountiful. The Beau's Stratagem, Farquhar. A generous lady.

Laertes. Hamlet, Shakspere. of Polonius, killed by his own sword. The son

Lalla Rookh. Lalla Rookh, Moore. Heroine of the poem, to whom Feramorz re-lates the stories told in the romance.

Languish, Lydia. The Rivals, Sheridan. Heroine of the play. King. King Lear, Shakspere.

Lear, King. Hero of the play. Leatherstocking, Natty. Pathfind. Deerslayer, and other novels, Cooper. huntsman and Indian fighter.

Legree. Uncle Tom's Cabin, Stowe. Slave

Leigh, Aurora. Aurora Leigh, Browning. Heroine of the romance.

Lella. Giaour, Byron. Heroine of the

Lightwood, Mortimer. Our Mutual Friend, Dickens. Minor character in novel. Lismahago, Capt. Humphrey Clinker, Smollett. A retired officer.

Little, Henry. Put Yourself in His Place, Reade. Hero of the novel.

Little Nell. Old Curiosity Shop, Dickens. Heroine of novel.

Locksley. Ivanhos, Scott. One of Robin Hood's pseudonyms.

Long Tom Coffin. Pilot, Cooper. A boatman.

Lothair. Lothair, Disraeli. Hero of novel, supposed pseudonym for the Marquis of Bute of Bute.

Lothario. The Fair Penitent, Rowe. A rake.

Lovelace. Clarissa Harlowe, Richardson.

Lumpkin, Tony. She Stoops to Conquer, Goldsmith. A country squire.

Macbeth. Macbeth, Shakspere. Hero of the play.

Macduff. Macbeth, Shakspere. Rival of Macbeth. MacIvor, Flora. Rob Roy, Scott. Hero-

ine of novel. Mackenzie, Mrs. Newcomes, Thackeray.

A termagant widow.

Malagrother, Sir Mingo. The Fortunes of Nigel, Scott. An ill-natured courtier. Malaprop, Mrs. The Rivals, Sheridan. A character famed for verbal blunders.

Malvolio. Twelfth Night, Shakspere. Olivia's conceited steward.

Manfred. Manfred, Byron. Hero of the

Mantalini. Nicholas Nickleby, Dickens. The absurd husband of the milliner in the

Marchioness, The. Old Curiosity Shop, Dickens, Mr. Dick Swiveller's remarkable little nurse.

Margaret. of the tragedy. Faust, Goethe. The heroine

Marlow, Young. She Stoops to Conquer, Goldsmith. Hero of the play.

Medora. The Corsair, Byron. Heroine of the poem.

Merdle, Mr. Little Dorrit, Dickens. A speculator.

Meister, Wilhelm. Wilhelm Meister, Goethe. Hero of the novel.

Mephistopheles. Faust, Goethe. The

Mercutio. Romeo and Juliet, Shake-pere. A wonderfully witty friend of Romeo's.

Micawber, Wilkins. David Copperfield, Dickens. A remarkable character, always Dickens. A remarkable characte waiting for something to turn up.

Miller, Daisy. Daisy Miller, Hem James. An alleged representative America girl.

Minna. The Pirate, Scott. One of the heroines of the novel.

Miranda. The Tempest, Shakspere. Daughter of Prospero, beloved of Ferdinand; heroine of the play.

Monimia. The Orphan, Otway. Heroine of the poem.

Mouldy. Henry IV., Shakspere. One of Falstaff's recruits. Mucklewrath, Habbakuk. Old Mor-

tality, Scott. A fanatical preacher. Neuchatel, Adriana. Endymion, Dis-

racli. A wealthy young lady. Newcome, Clive, Colonel, Ethel. The Newcomes, Thackeray. Characters in the best novel Thackeray has written.

Nickleby, Mrs. Nicholas Nickleby, Dickens. The exasperating mother of the

Dickens. The hero, Nicholas.

Norna. The Pirate, Scott. An insane soothsayer.

Nydia. Last Days of Pompeii, Bulwer. A blind flower girl.

Obadiah. Tristram Shandy, Sterne. A servant.

Oberon. Midsummer Night's Dream, Shahspere. The King of Fairyland. Ochiltree, Edie. The Antiquary, Scott. A beggar of prominence.

Oldbuck, Jonathan. The Antiquary,

Old Mortality. Old Mortality, Scott. A gravestone cleaner.

Olifaunt, Nigel. The Fortunes of Nigel, Scott. Hero of the novel.

Ophelia. Hamlet, Shakspere. Heroine of the tragedy.

Orville, Lord. Evelina, Miss Burney. Evelina's lover.

Othello. Othello, Shakspere. Hero the play, a Moor, husband of Desdemona. Hero of O'Trigger, Sir Lucius. The Rivals, Sheridan. A fire-eating Irishman.

Overreach, Sir Giles. A New Way to Pay Old Debts, Massinger. A usurer.

Page, Anna and Mrs. The Merry Wives of Windsor, Shakspere. Characters in the

Pamela. Pamela, Richardson. An intensely good young lady.

Pangloss. The Heir-at-Law, Colman. A pedantic teacher. Pantagruel. Pantagruel, Rabelais. Hero

Partridge. Tom Jones, Fielding. The hero's trusty follower.

Pecksniff, Charity, Mercy, Mr. Martin Chuzzlewit, Dickens. Characters in the story. Pendennis, Arthur, Helen, Major.

Pendennis, Thackeray. Well drawn and forcible characters in the novel.

Perdita. Winter's Tale, Shakspere. Florizet's sweetheart.

Petruchio. The Taming of the Shrew hakspere. The hero, and husband o Shakspere. Katherine.

Pickle, Peregrine. Peregrine Pickle, Smollett. The wandering and immoral hero of the novel.

Pickwick, Samuel. Pickwick Papers, Dickens. Hero of the novel.

Pierre. Venice Preserved, Otway. A conspirator.

Pistol, Ancient. Merry Wives of Windsor and Henry IV., Shakspere. Falstaff's most characteristic follower.

Pleydell, Paulus. Guy Mannering, Scott. A lawyer.

Poins, Ned. Henry IV., Shakspere. A friend of Prince Hal. Portin. The Merchant of Venice. Heroine

of the play.

Poundlint, Peter. Old Mortality, Scott. A preacher.

Primrose, Dr. Vicar of Wakefield, Gold-smith. The Vicar of Wakefield.

Primrose, Moses. His son.

Prolius. Two Gentlemen of Verona, Shakspere. One of the two Gentlemen.

Proudfute. Fair Maid of Perth, Scott. A bonnet-maker.

Prynne, Hester. Scarlet Letter, Haw-thorne. Heroine of novel.

Pumblechook, Uncle. Great Expecta-tions, Dickens. A bully and fraud.

Pynchon, Phoebe. House of the Seven Gables, Hawthorne. Heroine of the novel. Quasimodo. Our Lady of Notre Dame,

A monster. Quickly, Mrs. Henry IV., Shakspere. The famed hostess of the Boar's Head Tavern, in Eastcheap.

Quilp. Old Curiosity Shop, Dickens. A vicious dwarf.

Quince, Peter. Midsummer Night's Dream, Shakspere. Character in the inter-lude.

Random, Roderick. Roderick Random, Smollett. Hero of the novel.

Rashleigh. Rob Roy, Scott. The villain of the novel.

Rasselas. Rasselas, Dr. Johnson. Prince of Abyssinia, hero of the tale.

Rattler, Jack. Roderick Random, Smol-lett. A nautical character.

Ravenswood. The Bride of Lammermoor, Scott. Hero of the novel, lover of Lucy Ash-

Rebecca. Ivanhoe, Scott. A lovely Redgauntlet. Redgauntlet, Scott. Hero

of the novel. Rob Roy. Rob Roy, Scott. A Scottish chief, hero of the novel.

Roderigo. Othello, Shakspere. Iago's

Romeo. Romeo and Juliet, Shakspere. The hero of the play, lover of Juliet.

Sabrina. Comus, Milton. River nymph. Sacripant. Orlando Furioso, Ariosto. King of Circassia, in love with Angelica.

Saddletree, Bartoline. Heart of Mid-lothian, Scott. A learned peddler.

Sancho Panza. Don Quixote, Cervantes. Worthy squire of a worthy master; the right man in the right place.

Sandford, Harry. Sandford and Merion, Day. Hero of the story.

Sangrado, Doctor. Gil Blas, Le Sage.
A confirmed phlebotomist.

Scheherezade, Queen. Arabian Nights. The Sultaness who tells the tales. Scrub. The Beau's Stratagem, Farquhar.

A facetious valet. Sedley, Amelia. Vanity Fair, Thackeray. An amiable woman, but of no great decision.

Sedley, Joseph. Vanity Fair, Thackeray. A fat, bashful East Indian. Selim. Bride of Abydos, Byron. The

Shafton, Sir Piercie. The Monastery, Scott. A pedantic courtier

Shandy, Tristram. Tristram Shandy, Sterne. Hero of the story.

Sharp, Rebecca. Vanity Fair, Thack-ray. The designing herome. Shylock. Merchant of Venice, Shaks-ere. A vindictive Jew.

Silvia. Two Gentleman of Verona, Shaks-ere. In love with Valentine.

Skimpole, Harold. Bla Dickens. Always out of money. Bleak House,

Slipslop, Mrs. Joseph Andrews, Fielding. A waiting woman of doubtful character.

Slop, Doctor. Tristram Shandy, Sterne. An irascible physician.

Sly, Christopher. Taming of the Shrew, Shakspere. A drunken tinker. Slyme, Chevy. Martin Chuzzlewit, Dickens. A "gent short of runds."

Smyke. Nicholas Nickleby, Dickens. An ill-used, poor, half-witted pupil of Squeers. Sneerwell, Lady. School for Scandal, Skeridan. A gossip and back-biter.

Snodgrass, Augustus. Pickwick Papers, Dickens. A poetical character.

Snow, Lucy. Villette, Charlotte Bronte.

Sparkler, Edmond. Dickens. Man of fashion. Little Dorrit.

Squeers, Wackford. Nicholas Vukleby, Dickens. The brutal master of Dotneboy's Hall.

Squeers, Master Wackford. A spoiled child, the image of his father. St. Leon. St. Leon, William Goodwin. Hero of the tale, has the secret of perpetual youth and the transmutation of metals.

Steerforth, James. David Copperfield, Dickens. Talented and proffigate.

Steggs, Miss Carolina Amelia. Vicar of Wakefield pretender to gentility. Wilhelmina Wakefield, Goldsmith. A

Stiggins, Elder. Pickwick Papers, Dickens. Affects pineapple rum and Mrs. Weller.

Strap, Hugh. Roderick Random, Smollett. Roderick's follower.

Surface, Sir Charles and Joseph. School for Scandal, Sheridan. The first good-natured rake, the second a hypocrite.

Swiveller, Dick. Old Curiosity Shop. Dickens. A gay rattlepate and a good fellow. Tamora. Ti. A Gothic Queen. Titus Andronicus, Shakspere,

Tapley, Mark. Martin Chuzzlewit, Dickens. Happiest when most miserable; jolly when he ought to cry.

Tappertit, Simon. Barnahy Rudge, Dickens. A ferocious little apprentice.

Tartuffe. Tartuffe, Moliere. A hypocriti-

Teazle, Lady. School for Scandal, Sheridan. The heroinc.

Teazle, Sir Peter. School for Scandal, Sheridan. The old husband of Lady Teazle. Thersites. Iliad, Homer, and Troilus nd Cressida, Shakspere. A foul-mouthed

Thwackum. Tom Jones, Fielding. A philosophical pedagogue.

Tillemina. The Critic, Sheridan. A maiden very much crossed in love.

Timon. Timon of Athens, Shakspere. A misanthrope, hero of the play.

Tinto, Dick. Bride of Lammermoor, and St. Romans Well, Scott. An artist.

Titania. Midsummer Night's Dream, Shakspere. The queen of fairies.

Titmouse, Tittlebat. Ten Thousand a Year, Dr. Warren. Astonished Parliament by an imitation of Chanticleer. Tito. Romola, George Eliot. The hand-

some, but weak hero.

Todgers, Mrs. Martin Chuzzlewit, Dickens. The keeper of a commercial board-Dickens. Ti

Toots. Dombey and Son, Dickens. A simple, eccentric fellow. Topsey. Uncle Tom's Cabin, Mrs. Stowe.

An ignorant young slave girl. Touchstone. As You Like It, Shakspere.

A clown.

Touchwood, Peregrine. St. Romans Well, Scott. An trascible East Indian. Tox, Miss. Dombey and Son, Dickens. A

spinster, slightly curious. Traddles, Tom. David Copperfield, Dickens. A barrister and friend of Copper-

Trapbois. The Fortunes of Nigel, Scott.

Trim, Corporal. Tristam Shifterne. The follower of Uncle Toby. Sterne. Trinculo. Tempest, Shakspere. A jester.

Triol, Marquis. The Pirate, Scott. A wealthy Zealander.

Trotwood, Betsy. David Copperfield, Dickens. The kindest of women, but with an aversion to trespassing donkeys.

Trulliber, Parson. Joseph Andrews, Fielding. An ignorant clergyman.

Trunion, Commodore Hawser. Pere-grine Pickle, Smollett. An odd nautical character.

Tulkinghorn, Mr. Bleak House, Dickens. A wily solicitor.

Tulliver, Maggie. Mill on the Floss, George Eliot. The heroine.

Tulliver, Tom. Mill on the Floss, George Eliot. Her selfish, conceited brother.

Tupman, Tracy. Pickwick Papers, Dickens. An obese admirer of lovely women. Turveydrop. Bleak House, Dickens. Dancing master and professor of deportment. Tusher, Thomas. Henry Esmond, Thackeray. A sycophantic clergyman.
Twemlow, Mr. Our Mutual Friend, Dickens. A diner-out and friend of the Venerarins.

eerings.

Twist, Oliver. Oliver Twist, Dickens. Hero of the novel.

Twysden, Talbott. Philip, Thackeray. A public officer.

Tybalt. Romeo and Juliet, Shakspere. Nephew of Lady Capulet, slain by Romeo. Ulrica. Ivanhoe, Scott. An old witch.

Una. The Faery Queen, Spenser. The personification of Truth.

Uncas. The Last of the Mohicans, Cooper. A Mohican chief.

Uncle Toby. Tristram Shandy, Sterne. A noble veteran, the real hero of the story.

Uncle Tom. Uncle Tom's Cabin, Stowe. A pious and unfortunate slave, the hero of the novel. This book added more converts to the abolition party than any other factor. It is the most remarkable and effective American work printed.

Varden, Dolly. Barnaby Rudge, Dickens. The heroine of the story.

Vathek. Vathek, Beckford. The hero of Beckford's remarkable novel.

Vernon, Di. Rob Roy, Scott. The heroine of the novel.

Vholes. Bleak House, Dickens. A crafty lawyer.

Viola. Twelfth Night, Shakspere. A sweet little lady in love with Orsino.

Virgilia. Coriolanus, Shakspere. Wife of Coriolanus.

Virginia. Paul and Virginia, St. Pierre. Heroine of the novel.

Vivian. Idyls of the King, Tennyson. The mistress of Merlin, the Enchanter.

Wadman, Widow. Tristram Shandy, Sterne. The lady who seeks to decoy Uncle Toby into matrimony.

Wamba. Ivanhoe, Scott. A clown.

Wandle, Mr. Pickwick Papers, Dickens, A jolly country gentleman, friend of Mr. Pickwick.

Wegg, Silas. Our Mutual Friend, Dickens. The villain of the novel.

Weller, Tony and Samivel. Pickwick Papers, Dickens. Father and son; the latter, Mr. Pickwick's serving man, is undoubtedly the most original and most humorous creation of Dickens' exuberant fancy.

Werther. Sorrows of Werther, Goethe. Hero of the tale.

Western, Squire and Sophia. Tom Jones, Fielding. Father and daughter, the latter the heroine of the novel.

Whiskerandos, Don Ferolo. The Critic, Sheridan. The lover of Tilburina.

Wickfield, Agnes. David Copperfield, Dickens. Heroine of the novel.
Wild, Jonathan. Jonathan Wild, Fielding. A famous highwayman, and afterwards a noted thieftaker of London.

Wildair, Sir Harry. The Constant Cou-ple, and Sir Harry Wildair, Farquhar. The heto of both plays.

hero of both plays.

Wilfer, Bella, Lavinia, Reginald and
Mrs. Our Mutual Friend, Dickens. One of
the most entertaining family groups in English fiction. The first is the charming heroine
of the novel. Lavinia is her abominable sister; Reginald, her angelic papa; while the
somber background is made by the gloomy
mamma, whose other name in the family is
The Tragic Muse.

Wilfrid. Rokeby, Scott. Hero of the

Williams, Caleb. Caleb Williams God-The hero of a very remarkable novel

Wimble, Will. Spectator, Addison. Pseudonym for Thomas Morecraft.

Winkle, Rip Van. Sketch Book, Irving. The immortal sleeper of the Catskills.

Wishfort, Lady. The Way of the World, Congreve. Heroine of the play.

Worldly Wiseman, Mr. Pilgrim's Progress, Bunyan. One of Christian's difficulties.

Wray, Enoch. The Village, Crabbe. A noble old man.

Wren, Jenny. Our Mutual Friend, Dickens. The doils' dressmaker.

Wronghead, Sir Francis. The Provoked Husband, Vanburgh. Hero of the play.

Yorick. Tristram Shandy, Sterne. A jester descended from the Yorick whose history is told by Hamlet.

Yseult. Tristram and Yseult, Matthew Arnold. A Cornish heroine of the olden time.

Zadoc. Absolom and Achitophel, Dryden. Pseudonym for Sancroft, Archbishop of Canterbury.

Zanoni. Zanoni, Bulwer. The mystical hero of the novel.

Zeluco. Zeluco, Dr. J. Moore. The prodigal hero of the novel.

Zobeide. Arabian Nights. The wife of the great Haroun al Raschid.

Zodig. Zodig, Voltaire. The Babylonian hero of the novel.

Zophiel. Paradise Lost, Milton. A swiftwinged cherub.

Zuleika. The Bride of Abydos, Byron. Heroine of the poem.



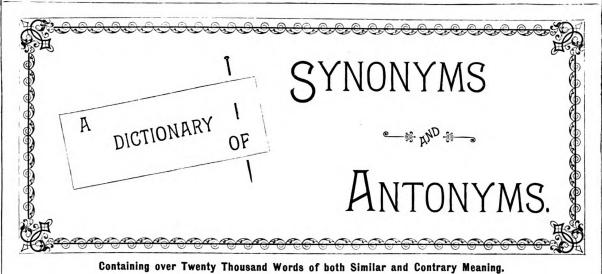


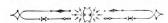


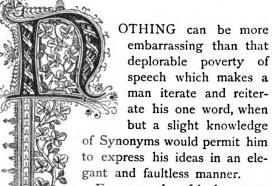












Every one has felt the necessity, in writing or speaking, of having at command a ready vocabulary from which to select words that will clearly and forcibly convey the intended meaning and at the same time save the

inelegance of frequent repetitions.

In fact, some writers have made the number of Synonyms in a language the test of its civilization and fitness for literature. Thus the ancient Greek fairly teems with words having a like signification, so that every delicate shade of meaning might be clearly and forcibly put; the same may be said of Latin and of Hebrew. On the other hand, while the English language

contains about forty thousand words, Latham and other scholars have decided that the vocabulary of the English peasant does not contain more than five or six hundred words. Consequently it seems clear that a knowledge of words is the most direct possible test of culture and civilization.

The rhetorical fault known as tautology is best overcome by an acquaintance with Synonyms. On the other hand a knowledge of Antonyms stands next in importance to Synonyms, for one of the strongest figures of speech is "Antithesis," or the putting of matters in startling contrast and opposition-a method known of old as one of the most effective weapons in the armory of the rhetorician. The Dictionary of Antonyms following will be found one of the most complete ever published. The student will, upon finding the antonym he wishes, turn to its peculiar synonyms, and thus find the very word for which he may be seeking. To illustrate the use and necessity of synonyms to the writer and speaker we append a sentence which clearly shows the value of a dictionary of this character.

Example.

He was a man of acute perception, acute judgment, acute intellect and acute observation.

The Same Sentence Improved.

He was a man of \{ acute keen quick \} perception,

| judgment, { bright | sharp } intellect and shrewd piercing discerning) subtle

> (intelligent > observation. penetrating (clear-sighted)

reiteration of the same word gives strength and consistency to a sentence; when the same word used again and again comes at last to be like the blows of a hammer, riveting attention to the subject.

On the other hand there are cases when the

Of this character is Webster's celebrated sentence in his speech on "American Institutions."

Webster's Celebrated Sentence.

"Our Government can stand trial, it can stand assault, it can stand adversity, it can stand persecution; it can stand everything but the weakness of our own strength, it can stand everything but disorganization, disunion and nullification."

Abandon. v. 1. Leave, quit, forsake, drop, relinquish, evacuate, give over, cast off. 2. Surrender, cede, resign, waive, vacate. Anto., keep, hold, retain.
Abandoned. adj. 1. Deserted, forsaken. 2. Depraved, corrupt, profligate, shameless, incorrigible. Anto., 1. Kept, cared for. 2. Virtuous, holy.

Virtuous, holy.

Virtuous, holy.

Abase. 7: 1. Reduce, lower. 2. Degrade, humble, disgrace. Anto., 1. Increase, raise. 2. Honor, praise.

Abash. 7: Shame, confuse, humiliate. Anto., cinbolden, reassure.

Atto., embolden, reassure.

Abate. v. 1. Lessen, reduce, diminish.

2. Moderate, allay. 3. Suppress, remove, terminate. Anto., 1. Augment. 2. Infuriate, 3. Empower, permit.

Abbreviate. v. Curtail, shorten. Anto., enlarge, lengthen.

Abduct. v. Kidnap. Anto., rescue.

Abet. v. Aid, assist, help. 2. Favor, sanction. 3. Instigate, incite. Anto., 1. Resist. 2. Oppose. 3. Forbid.

Abhor. v. Hate, loathe, detest. Anto., love, admire.

love, admire.

love, admire.

Abide. v. Sojourn, live, dwell. Anto., depart, leave.

Ability. n. 1. Power, force, might. 2. Competence. 3. Capacity, genius, turn. Anto., Inability. 1. Feebleness. 2. Insufficiency. 3. Incapability.

Abject. adj. Base, vile, mean, low. Anto., lofty, good, noble.

Anto., lofty, good, noble.

Able. adj. 1. Clever, accomplished, talented. 2. Qualified. 3. Gifted, strong, mighty.

Anto., 1. Stupid. 2. Unfit. 3. Weak, feeble.

Abolish. v. 1. Repeal, revoke, annul, cancel. 2. Overthrow. Anto., 1. Enforce, hold. 2. Establish.

Abominable. adj. 1. Hateful, odious.

2. Loathsome, nauseous. 3. Vile, wretched.

Anto., 1. Lovable. 2. Pleasant. 3. Happy, good.

good.

Abridge. v. Contract, compress. Anto., expand. See Abbreviate.

Abrupt. adj. 1. Broken, rugged. 2. Step. 3. Sudden, unexpected. 4. Short, curt. Anto., 1. Smooth. 2. Level. 3. Slow.

4. Long, courteous, Absolute. adj. 1. Real, positive. Arbitrary, despotic. 3. Independent. Anto., 1. Shadowy. 2. Limited. 3. Dependent.

Abstinence. n. Temperance, fast. Anto., feast, plenty, orgies.
Abstruse. adj. Profound, recondite, hidden. Anto., simple, clear.
Absurd. adj. Silly, foolish, laughable, Anto., wise, solemn.

Abundance. n. Plenty, profuseness, richness. Anto., famine, want, poverty.

Abuse. v. 1. Pervert, misuse. 2. Harm, injure. 3. Revile, reproach, malign. Anto., 1. Use. 2. Protect. 3. Praise.

Accept. v. Receive, take. Anto., refuse,

Acceptable. adj. Pleasing, welcome. Anto., displeasing.
Accidental. adj. Casual. Anto., pre-

Accommodate. 7. 1. Oblige, serve, assist. 2. Fit, suit, adapt. 3. Reconcile, adjust. Anto., 1. Disoblige, impede. 2. Spoil. 3. Embitter.

Accomplish. v. Complete, perform, execute. Anto., fail.

Accomplished. adj. 1. Educated, experienced, practiced, adroit, talented. 2. Polished, refined, polite. Auto., 1. Ignorant, awkward. 2. Boorish, ill-bred.

Account. n. Narrative, recital, history.
Anto., rebuttal, negation.
Accrue. v. Result, issue, ensue. Anto.,
stop, delay, bar.

Accumulate. r. 1. Collect, gather. 2. Store, garner, hoard. 3. Increase, grow. Anto., 1. Dissipate, scatter. 2. Spend. 3. Lessen, diminish.

Accurate. adj. Correct, exact, precise. Accuse. v. Charge, criminate, arraign.

Accustom. v. Habituate, familiarize, addict. Anto., unused, undrilled.

Achieve. v. See Accomplish.
Acknowledge. v. Admit, concede, avow.

Anto., deny.
Acquaint. v. Tell, inform, notify. Anto.,

Acquire. v. Get, gain, secure, win, ob-tin. Anto., lose. Acquit. v. Clear, absolve, exonerate.

tain. Anto., lose.

Acquit. v. Clear, absolve, exonerate.
Anto., convict, indict.
Act. v. 1. Work, move, execute. 2. Behave, demean. 3. Operate. 4. Do, perform.
5. Personate, play, enact. Anto., 1. Idle, loaf. 2. Misbehave. 3. To be inert. 4. Refuse. 5. Verify.
Act. n. 1. Deed, performance. 2. Statute, law. 3. Part of a play.
Active. adj. 1. Brisk, alert, nimble, smart. 2. Busy, diligent, enterprising. 3. Powerful, drastic. Anto., 1. Lazy. 2. Lacking energy. 3. Weak.
Actually. adv. Really, truly, verily.
Anto., falsely, deceptively.

Acute. adj. 1. Keen, shrewd, sharp, discerning, knowing, quick, smart, bright, intelligent, ingenious, subtle, penetrating, piercing, clear-sighted, sharp-witted, long-headed. 2 Severe, violent, intense, exquisite, pungent. Anto., 1. Dull. 2. Stupid.

Add. v. 1. Join, annex, append, tag. 2. Sum, cast up. Anto., 1. Disconnect, separate. 2. Subtract, take away.

Address. n. 1. Appeal, petition, entreaty. 2. Speech, discourse, oration. 3. Skill, art, tact. 4. Superscription, direction. 5. Manner. Anto., 3. Clumsiness, awkwardness.

Adhere. v. Cling, cleave, cohere. Anto.,

Adjacent. adj. Near, bordering, contiguous. Auto., far, asunder.
Adjust. v. Arrange, trim, regulate, adapt, accommodate. Auto., disarrange, disorder,

confuse.

Admirable. adj. Excellent, fine, praise-worthy. Anto., blamable, execrable.

Admire. v. Wonder, like, esteem, love.
Anto., hate, despise, dislike.

Admit. v. t. Grant, concede, confess.
2. Let in. Anto., 1. Deny. 2. Keep out, exclude.

Admonish. v. Advise, warn, reprove.
Anto., recommend.
Adulation. n. Flattery. Anto., blame, scolding.

scolding.

Advancement. n. Preferment, progression.

Anto., displacement, retrogression, receding.

Adventure. n. 1. Stake, risk, chance.

2. Accident, danger, event. Anto., 1. Certainty. 2. Quiet, safety.

Adversity. n. Trouble, misfortune, sorrow, distress. Anto., prosperity, wealth, joy.

Advertise. v. Announce, publish, pro-

aim. Anto., conceal.

Advice. n. 1. Counsel, caution. 2. In-

formation.

Affable. adj. Civil, sociable, easy. Anto., surly, discourteous.

Affection. n. Partiality, fondness. Anto.,

Afflict. v. Trouble, annoy, torment, harass. Anto., please.
Affront. v. Insult, abuse, condemn. Anto.,

respect.
Agent. n. Factor, substitute. Anto.,

principal.
Aggregate. n. Total, whole, lump, sum,

mass. Anto., part.
Agile. adj. See Active.
Agitation. n. 1. Excitement, commotion, timult. 2. Debate, discussion. Anto., tranquility.

Agree. v. 1. Concur, acquiesce, unite. 2. Engage, contract. Anto., 1. Differ, disagree. 2. Refuse.
Ald. v. Assist, help. Anto., resist.
Alarm. n. Fright, dismay, apprehension. Anto., confidence, courage.

Alert. adj. See Active.

Aliment. n. Food, sustinence, nourishment.
Allay. v. Soften, lessen, quiet, ease. Allay. v. Soften, lessen, quiet, ease. Anto., excite.
Alleviate. v. See Allay.
Alliance. n. League, confederacy, union. Anto., disunion, discord.
Allowance. n. 1. Salary, wages, pay.
2. Permission. Anto., 2. Prohibition.
Allure. v. Tempt, decoy. Anto., repel. Amass. v. See Accumulate.
Amatory. adj. Tender, amorous, crotic.
Anto., hateful.
Amazement. n. Wonder, astonishment. Amazement. z. Wonder, astonishment. Anto., anticipation.
Ambiguous. adj. Doubtful, dubious. Anto., clear.

Amicable. adj. Kind, friendly, pleasant. Anto., hostile. Anto., hostile.
Ample. adj. 1. Spacious. 2. Plentiful, abundant. Anto., 1. Confined, narrow. 2. Scarce.
Amuse. v. Divert, entertain. Anto., Amuse. v. Divert, entertain. Anto., weary, tire.
Analogy. v. Similarity. Anto., diversity, difference.
Ancestors. n. Forefathers. Anto., posterity.
Ancient. adj. Old antique. Anto., modern.
Anger. n. Resentment, wrath, ire, fury, rage, choler. Anto., peacefulness, amiability, calm.
Angulsh. u. Pain. distress. agony. Anto. Anguish. u. Pain, distress, agonv. Auto., blis Animal. n. Creature, beast, brute. Anto., Animati. n. Creature, beast, brute. Anio., things inanimate.
Animate. v. Inspire, enliven, cheer, incite, urge. Anio., depress.
Animation. n. Life, spirit, vivacity. Animation. M. Animosity. M. Enmity, hostility, malignancy. Anto., liking, friendliness.
Annex. v. Attach, append, join. Anto., Annex. v. Attach, append, join. Anto., detach, separate.
Announce. v. See Advertise.
Annoy. v. Disturb, molest, trouble.
Anto., convenience, please, accommodate.
Annul. v. Rescind, abolish. Auto., affirm Answer. n. Reply, rejoinder. Anto., question.

Anterior. adj. Prior, before, previous.

Anto, posterior, subsequent.

Anticipate. v. Foresee, forestall, pre-Antique. v. Foresce, forestall, prevent. Ante, surprise.
Antipathy. n. Aversion, dislike, hatred.
See Animosity.
Antique. adj. Old, ancient. obsolete See Animosity.

Antique. adj. Old, ancient, obsolete.

Anto, modern, new, fresh.

Anxiety. n. Care, solicitude, worry.

Anto, certainty, repose.

Any. adj. pron. 1. Any one. 2. Some.

Anto, none. Mo., none.
Apartment. n. Lodging, room, chamber. Apathy. n. Coldness, torpor, unconcern. Anto., animation, which see. Ape. v. Imitate.
Apologize. v. Excuse, exculpate. Anto.,
insult, justify.
Appal. v. Scare, shock, frighten. Anto.,
embolden, encourage. See Alarm.
Apparel. v. Dress, clothing, attire.
Anto., nudity.
Apparent. adf. Visible, plain, obvious,
evident. Anto., concealed, ambiguous, which v. Imitate Apparition. n. An appearance, ghost, spirit, phantom.
Appear. v. 1. Emerge, come into view.
2. Seem, look. Anto., disappear.
Appearance. n. 1. Coming, arrival. 2. Air, figure. 3. Semblence. Anto., 1. Departure. 3. Unlikeness
Appease. v. Calm, pacify Anto., inflame.

flame.

ppellation. n. Name, title.
nnlaud. v. Cheer, praise, extol. Anto., Appellation. n.
Appland. v. Cheer, praise, each.
iss, blame, belittle.
Application. n. Industry, persistency.
imo., idleness, fickleness.
v. Use, appropriate, devote.
2 Name, Balance. v. Equalize, counteract, poise. Maintee. D. Equalize, Counteract, possible Anto., preponderate.

Band. n. 1. Company, crew, gang. 2. Chain, fetter, shackle. 3. Fillet, bandage. 4. Orchestra, company of musicians. Anto., individual company. Anto, idleness,
Apply. v. Use, appropriation of the Anto, misapply.
Anto, misapply.
Change. dividual, one. dividual, one.

Banish. v. Exile, send away, exclude.

Anto., recall.

Banter. v. Rally, twit, taunt.

Bare. adj. Unclothed, naked. Anto., Appoint. v. 1. Fix, establish. 2. Name, constitute. Anto., 1. Change.
Appraise. v. Value, estimate, rate.
Appreciate. v. Estimate, value, appraise.
Apprehend. v. 1. Catch, capture, arrest.
2. Understand, comprehend. 3. Fear, dread, alarm. Anto., 1. Escape. 2. Misunderstand.
3. Embolden.
Apprise. v. See Admonish.
Approach. v. Approximate, come near.
Auto. denart. c'ad. c'ad.

Bargain. n. Agreement, contract, sale.

Barter. v. Exchange, sell, commute.

Anto, retain.

Base. adj. See Abject.

Bear. v. 1. Uphold. 2. Undergo, suffer.

3. Generate, bring forth.

Beastly. adj. Brutal, sensual, bestial. nto., depart. Approbation. Benstly. adj. Brutal, sensual, bestial. Anto., humane, polite.
Bent. v. 1. Knock, hlt, strike. 2. Defeat, conquer, subdue.
Benu n. 1. Admirer, suitor. 2. Fop, dandy Anto., belle.
Benuty. n. Comeliness, grace, symmetry. Anto., ugliness.
Beconning. adj. Appropriate, seemly, fit. Anto., unsuitable.
Beg. v. Beseech, solicit, entreat. Anto., grant. n. Approval, sanction, Approximate. v. See Approach.
Apt. adj. 1. Fit, meet, suitable, qualified.
Ready, quick, prompt. Anto., 1. Unfit. 2. Apt. adj. 1. Fit, mect, suitable, qualified.
2. Ready, quick, prompt. Anto, 1. Unit. 2. Slow.

Arbitrary. adj. Irresponsible, tyrannous.
Anto., normal, regular, constitutional.
Arbitrator. n. Judge, umpire, referee.
Archives. n. Records, chronicles.
Ardent. adj. Zealous, fervid, hot, intense. Anto., call, cool.
Arduous. adj. Difficult, trying, laborious. Anto., casy, facile.
Argue. v. 1. Evince, prove. 2. Reason, discuss, debate. Anto., disprove.
Argument. n. Reason, proof, discussion, dispute. Anto., folly, mistake.
Arise. v. Mount, ascend, get up. 2. Begin, originate. Anto., descend, ge down.
Aristoeratic. adj. Haughty, proud, arrogant. Anto., democratic, plebelan.
Army. n. Force, troops. Anno., mob.
Armign. v. See Accuse. Anto., acquit.
Arrange. v. 1. Distribute, rank, classify.
2. Plan, devise, organize. Anto., disarrange.
Arrogance. n. Pride, haughtiness, superciliousness. Anto., humility.
Artitl. adj. 1. Skilful. 2. Subtle, shrewd, crafty. Anto., simple, unaffected.
Artifice. n. Cunning, trick, stratagem.
Anto., honesty, simplicity.
Artist. n. 1. Designer. 2. Painter, sketcher. 3. Sculptor, modeller. Anto. Beguile. v. Amuse, divert, delude. Behavior. n. Conduct, bearing, deportment. Anto., misbehavior.
Behold. interj. Scc, look.
Belleve. v. Credit, assume, deem. Anto., Beloved. adj. Dear, darling. Anto., hated.

Below. prep. Under, beneath. Anto, over, above.

Benefaction. n. Gift, gratuity

Anto, Bequeath. v. Leave, devise, will. Anto., inherit.
Bereave. v. Deprive, take away, strip. Anto., enrich.

Beseech. v. See Beg.
Bestow. v. Confer, give, grant. Anto., Assay. n. Test, examination, chemical nalysis of metals.

Association. n. Society, guild, combination. Association. n. Society, guild, combination. Anto., separation.
Attle. adj. Classic, elegant, pure. Anto., stupid, modern, unclassical.
Attitude. n. Posture, phase, situation.
Attorney. n. Lawyer, counsellor, agent. Anto., client.
Attract. v. Allure, fascinate, captivate.
Anto., repel.
Attraction. n. Charm, fascination. Auto, repulsion.

Audacity. n. Daring, hardihood, presumption, insolence. Auto., timidity, meckness.

Augment. v. Increase, enlarge, magnity. Anto., decrease, diminish.

Author. n. Writer, composer, maker.

Authority. n. Liberty, permit, order, warrant. Anto., prohibition.

Avarice. n. Closeness, cupidity, covetousness. Anto., liberality, prodigality.

Avow. v. Affirm, confess, declare. Anto., days. Awake. adj. Watchful, vigilant. Anto., AWAKE. adj. Watchful, vigilant. Anto., sleepy, drowsy.

Awe. n. Dread.

Awkward. adj. Unskilful, unhandy, boorish, rough. Anto., accomplished, subtle, graceful. R

withhold.

Better. Improve, amend, correct. ν. Better. v. Improve, amena, correct. Anto., confuse, deteriorate.
Bill. n. 1. Reckoning, statement, account.
2. Draft. 3. Beak. 4. Pick-axe.
Blame. n. Censure, reproof, reproach. Anto., praise.

Blemish. n. Stain, spot, speck, flaw. Blemish. n. Stain, spot, speck, flaw. Anto., immaculate.
Blind. adj. 1. Sightless. 2. Heedless. Anto., far-sighted.
Bloody. adj. Sanguinary, gory.
Boast. v. Brag, vaunt, glory.
Boltlness. n. 1. Courage, bravery, valor.
2. Effrontery, impudence. Anto., 1. Cowardice. 2. Bashfulness, modesty.
Bombastle. adj. Inflated, pompous, grandiloquent. Anto., concise.
Border. n. Verge, brim, edge, frontier. grandiloquent. Anto., concise.

Border. n. Verge, brim, edge, frontier.
Anto., middle, interior.
Bore. n. 1. Nuisance, a prosy talker. 2.
Hole, calibre.
Boundless. adj. Unlimited, immeasurable infinite. Aut. Undited. ble, infinite. Anto., limited.
Bountiful. adj. Liberal, generous, boun-Bravery. n. See Boldness.

Breeding. n. Nurture, training, manners. Anto., impoliteness.

Brief. adj. Short, concise. Anto., protracted. Bright. adj. Shining, radiant. Anto., dull Brilliancy. n. Luster, radiance. Anto., dullness.

Brittle. adj. Fragile, frail, crumbling. Anto., tough. Broil. n. Quarrel, brawl, fight, affray. Anto., quiet, peace.

Brutal. adj. Cruel, unfeeling, savage, ferocious. Anto., humane.

Bud. v. Sprout, shoot, germinate. Babble. v. Prate, chatter. Anto., to be Buffoon. n. Harlequin, fool, idiot. Anto., Baggage. v. Circumvent, foil. Anto., succor, aid, abet.

Baggage. u. Luggage. Bulld. v. Raise, erect. Anto., destroy, pull down.

Bulk. z. Size, magnitude, body, gross. Bulk. #. Size, magnitude, body, gross.

Anto., tenuity.

Burial. #. Interment, sepulture. Anto.,
resurrection.

Burst. v. Explode, break open.

Business. n. Calling, employment, vocation. Anto., leisure.

Bustle. n. Stir, tumult, fuss. Anto.,

quiet.

Butt. n. 1. Mark, object, target. 2. Cask.

Buxom. adj. Healthy, brisk, cheerful,
lively. Anto., spiritless.

Buy. v. Purchase, cheapen, bargain for.

Anto., sell.

C

Cabal. z. 1. Clique, set, league. 2. Plot, intrigue, conspiracy.

Cajole. v. Coax, flatter, wheedle. Anto.,

compel.

Calamity. n. Mishap, misfortune, disaster. Anto., good fortune, luck.

Calculate. v. Reckon, count, compute, rate, estimate.

Call. v. 1. Cry, shout. 2. Invite, bid, summon. Anto., 1. Whisper. 2. Order away, cond.

send.
Calling. n. See Business.
Callous. adj. Hard, unfeeling, dead.
Anto., sensitive, nervous.
Calm. adj. I. Composed, collected. 2.
Quiet, tranquil, placid. Anto., I. Stormy. 2.
Agitated.
Candid. adj. Open, honest, sincere.
Anto deceifful reacherous.

Agitated.
Candid. adj. Open, honest, sincere.
Anto., deceitful, treacherous.
Capacity. n. 1. Volume, amplitude. 2.
Ablity, competency, faculty, talent. 3. Character, office. Anto., 2. Incapacity, incompetency, stupidity, inability.
Caprice. n. Whim, freak, fancy, vagary.
Anto., settled purpose, conviction.
Captious. adj. Peevish, petulant, fretful, cross. Anto., good-humored, facile, casy.
Captivate. v. Fascinate, charm, enchant.
Anto., disgust, displease.
Careful. adj. 1. Heedful, attentive. 2.
Watchful, cautious, circumspect. Anto., heedless, careless, rash.
Caress. n. Kiss, embrace. Anto., buffet, spun.

Carousal. n. Feast, banquet, orgie. Anto., f.

nto., fast.
Cash. n. Money, coin, specie.
Casualty. n. Accident, mischance, con-

Cause. v. Produce, create, occasion.
Cause. v. Produce, create, occasion.
Cause. v. Reason, motive, inducement, incitement. Anto., effect.
Cavity. n. Aperture, opening, hollow.
Cautious. adj. Prudent, careful, watchful. See Careful. Anto., rash, headlong, heedless.

heedless.

Celebrate. v. 1. Commemorate, keep, observe, honor, solemnize. 2. Praise, extol, glorify. Anto., 1. Forget, ignore. 2. Execrate.

Censure. v. Blame, approve, chide, scold, herate. Anto., praise, honor, congratulate, approve.

Certain. adj. 1. Sure, assured, confident.

Infallible. unfailing. 2. Plain position.

Certain. adj. 1. Sure, assured, confident.
2. Infallible, unfailing. 3. Plain, postive, absolute, indubitable. Anto., uncertain. 1. Dubious, doubtful. 2. Fallacious. 3. Dark, disputed, challenged.
Chance. n. 1. Accident, fortune, fortuity, casualty. 2. Hazard, risk, peril, jeopardy. Anto., 1. Design. 2. Safety, certainty, security. Change. v. Alter, vary, turn.
Character. n. Repute, reputation, standing.

ing. Charm. s. Grace, attraction. Anto., re-

Chastity. n. Purity, modesty, virtue, continence. Anto., impurity, lewdness, in-

continence.

Chattels. n., pl. Goods, effects, personal property. Anto., real estate.

Chatter. v. See Babble.

Cheat. v. Deceive, trick, defraud,

swindle. Cheer. Cheer. v. 1. Applaud. 2. Comfort, console, gladden, encourage. Anto., 1. Hiss. 2. Distress.

Cheerful. adj. Lively, merry, sprightly, ay. Anto., sad, weary, downcast, mournful. gay. Anto., sad, weary, downcast, mountaine.
Cherish. v. 1. Nourish, nurse, nurture.
2. Encourage. 3. Harbor, protect, love.
Anto., 1. Starve, famish. 2. Dishearten. 3. Anto., 1. Starve, famish. 2. Dishearten. 3. Expose, detest.
Chief. n. Leader, commander. Anto.,

subordinate, subaltern.

Chiefly. adv. Principally, mainly, mostly, eminently. Amo., secondarily, subsequently.

Childhood. n. Minority, suosequenuy. Childhood. n. Minority, infancy. Anto., majority, manhood.
Childish. adj. 1. Young, juvenile, infantile. 2. Weak, trifling, silly. Anto., 1. Manful, experienced. 2. Strong, earnest, wise, sapient.

wise, sapient.

Choice. n Selection, election, option, preference.

Choke. v. 1. Suffocate, strangle, throttle. 2. Stop, block, obstruct. Anto., 1. Breathe, animate 2. Assist, help.

Choose. v. Prefer, pick, select, elect.

Circulate. v Propagate, disseminate, diffuse, spread. Anto., confine, stop, bound, retard.

retard.

Circumspect. adj. Judicious, discreet, prudent, cautious, wary. Anto., imprudent, rash, foolish.

Circumstance. n. Incident, accident.

Cite. v. 1. Quote, adduce. 2. Summon.

Anto., 2. Discharge, release.

Civil. adj. 1. Civic, municipal. 2. Urbane, obliging, courteous, polite, refined.

Anto., 1. Rural, countrified. 2. Rude, boor-

Anto, 1. Rurai, countries, ish, impolite.
Civility. n. 1. Courtesy, politeness, suavity. 2. Benefit, favor, kindness. Anto, 1. Discourtesy, asperity. 2. Unkindness, in-

civility.

Civilization. n. Culture, cultivation, refinement. Anto., barbarism, savagery, ignor-

nnement. Anto., p. p. Dressed, clothed, attired. Anto., naked, bare. Clandestine. adj. Concealed, hidden, sly, private. Anto., open, prominent, conspicuous, advertised. Clasp. v. Grasp, clutch, gripe. Anto., loosen, open, unclasp.

Clean. ady. Unsoiled, spotless, pure, immaculate. Anto., impure, dirty, filthy, soiled,

nasty. Clear. adj. 1. Transparent, bright, limpid. 2. Fair, cloudless, serene. 3. Plain, lucid, perspicuous. 4. Patent, obvious, visible, evident. Anto., 1. Opaque, dark. 2. Gloomy. 3. Ambiguous, dubious. 4. Occult, hidden,

Clear. v. Acquit, exonerate. Anto., con-

vict.
Clever. adj. 1. Skillful, apt, smart, quick, able. 2. Kind. Anto., stupid, clumsy, awkward, ignorant.
Climb. r. Ascend, clamber, scramble.
Anto., descend, go down, fall.

Anto., descend, go down, fall.

Cling. v. Adhere, stick. Anto., loosen.

Close. v. 1. Shut. 2. End, finish. Anto.,

1. Open. 2. Begin, commence.

Clothes. n. Raiment, dress, attire, garb,

costume, habiliments. Anto., nudity.

Cloy. v. Surfeit, sate, satiate, glut. Anto.,

misn. v. dy. See Awkward. Coarse. adj. 1. Gross, vulgar. 2. Rude, ncivil, gruft. Anto., 1. Nice, polite. 2. Re-

Coax. v. Flatter, wheedle, cajole. Anto.,

Conx. v. Flatter, wheedle, cajole. Anto., command, compel, force.
Cogent. adj. Forcible, powerful, potent, convincing. Anto., weak.
Cold. adj. 1. Cool, frigid, wintry. 2. Unfeeling, stoical. Anto., 1. Warm, tropical, fervid, hot. 2. Sensitive.
Cold. n. Catarrh, cough.
Collect. v. 1. Gather. 2. Accumulate, amass. Anto., scatter, disperse.
Collection. n. Crued gathering. 2.

Collection. n. 1. Crowd, gathering. 2. Accumulation, store, aggregation. 3. Con-

tribution.
Color. n. 1. Shade, tinge, tint, hue. 2. Pigment, paint.

Combination. s. 1. Union, conjunction, 2. Alliance. 3. Mixture. Asso., disunion, disconnection.

disconnection.

Come. v. 1. Approach. 2. Arrive. Anto.,
1. Go. 2. Depart.

Comely. adj. Handsome, pretty, symmetrical. Anto., ugly, homely, dispropor-

tionate.
Comfort. Comfort. v. Solace, cheer, console.

Anto., disconifort, disease.

Comical. adj. Droll, funny, humorous, ludicrous. Anto., solemn, serious.

Commanding. adj. Imperative, authorities.

tative.

Commence. v. Begin, originate. Anto.,

end, finish.
Commend. v. 1. Intrust, commit. 2.
Praise, extol, laud, eulogize. Anto., 1. Take
from, withdraw. 2. Blame, censure, disap-Comment. *

1. Remark, observation.

Comment. n. 1. Remark, observation.
2. Note, explanation.
Commercial. adj. Trading, mercantile. Commission. v. 1. Empower, authorize. 2. Depute, delegate.
Commoditous. adj. Fit, suitable, convenient. Auto., unit, inconvenient.
Commodities. n., pl. Wares, goods, merchandise, produce.
Common. adj. 1. General. 2. Usual, habitual, customary. 3. Trite, stale. 4. Ordinary, low. Anto., 1. Occasional, exceptional.
2. Unusual. 3. Fresh. 4. Peculiar, extraordinary.

Communication. s. Conference, con-

Communication. **. Conference, conversation, letter.
Community. **. 1. Society, public, people. 2. Association, brotherhood.
Companion. **. 1. Mate, comrade. 2. Partaker, sharer.
Company. **n. 1. Assembly, group, gathering. 2. Party. 3. Visitors. 4. Fellowship, society. 5. Corporation, firm. **Anto., individual, personality.
Compassion. **n. Pity, tenderness, clemency. **Anto.**, severity, harshness, cruelty.
Compatible. **adj.** Consistent, consonant.
Anto., incompatible, inconsistent.
Compel. **p. Force, coerce, drive. **Anto.**.

Compel. v. Force, coerce, drive. Anto.. cajole, coax, lead.
Compendium. n. Compend, abridgpendium. n. Compend, abridg. Anto., discourse, enlargement, aug-

ment. Anio., discourse, enlargement, — mentation.

Compensation. n. Reward, recompense, satisfaction. Anio., loss, punishment, correc

tion. Competent. adj. 1. Able, qualified. 2. Adequate, fit. Anio., 1. Incompetent, feeble.

2. Inadequate.
Competition. n. Rivalry, contest, emulation. Anto., monopoly, combination.
Complain. v. Murmur, grumble, lament.
Anto., rejoice, jubilate.
Compliment. n. Praise, commendation, encomium. Anto., insult, blame, detraction.
Comply. v. Confirm, yield, submit. Anto., disobey, rebel.
Compound.

Compound. adj. Composite, complex. Anto., simple, uniform, plain.

Compound. v. Mix, combine, intermingle. Anto., simplify, analyze, separate.

gle. Anto., simplify, analyze, separate.
Comprehend. v. 1. Comprise, include, embrace. 2. Grasp, see, understand, perceive.
Anto., 1. Exclude. 2. Mistake, misapprehend.
Comprehend. Anto., exclude.
Computation. n. Constraint, coercion.
Anto., freedom, liberty.
Computation. n. Remorse, regret, sorrow, penitence. Anto., joy, gratulation, gladness, buoyancy.
Compute: v. Reckon, calculate, estimate, count.

Conceal. v. 1. Hide, secrete, cover, screen.

2. Disguise, dissemble. Anto., 1. Reveal, uncover, display.
Concede. v. 1 Yield, surrender. 2.
Grant, admit. Anto., 1. Rebel, repcl. 2.

eny. Concelt. n. Vanity, egotism. Anto., Humility, meckness.
Concert. n. 1. Concord, harmony. 2.
Musical entertainment. Anto., 1. Discord.

Concise. adj. Short, brief, curt, laconic, terse. Asto., verbose, discursive, lengthy. Conclude. v. 1. Decide, determine. 2. End, finish, terminate. Asto., 1. Differ, dis-disagree.

Concussion. n. Clash, shock.
Condemn. v. Blame, censure, reprove,
disapprove. Anto, acquit, exonerate, excul-

Condemn. v. Blame, censure, reprove, disapprove. Anto., acquit, exonerate, exculpate, clear, justify.
Conduct. n. 1. Management. 2. Behavior, deportment, demeanor.
Confess. v. 1. Admit, grant, concede. 2. Acknowledge, avow. Anto., deny, traverse.
Confidence. n. 1. Faith, trust, belief. 2. Assurance, courage. Anto., 1. Distrust, incredulity. 2. Timidity.
Conflict. n. Contest, struggle, fight, battle.

battle.
Confound. v. Amaze, perplex, bewilder,

Confound. v. Amaze, perplex, bewilder, stupefy, dumbfound.
Confusion. n. 1. Jumble, disarray, disorder. 2. Tumult, commotion. 3. Shame, abashment. Anto., 1. Order, array. 2. Quiet. 3. Pride, hauteur, self-possession.
Congenial. adj. Suited, adapted, agreeable. Anto., unsuited, uncongenial.
Conjecture. n. Guess, supposition, surmise. Anto., demonstration, proof.
Conjugal. adj. Matrimonial, nuptial, bridal, connubial. Anto., celibate.
Connoisseur. n. Critic, judge. Anto., ignoramus.

Connoisseur. n. Criuc, juuge. Anno., ignoramus.

Connubial. adj. See Conjugal.

Conquer. v. Overcome, vanquish, subdue, checkmate, master, subject, crush. Anto., fail, yield, give up, surrender.

Consanguinity. n. Kindred, relationship

Consanguinty.

chip.

Consideration. n. I. Cause, reason, ground, motive. 2. Attention, deliberation.

Anto., 2. Inattention.

Consistent. adj. Accordant, compatible.

Anto., inconsistent, discordant.

Conspicuous. adj. 1. Prominent, eminent. 2. Visible, apparent. Anto., 1. Unknown, lowly. 2. Obscure, hidden.

Constrain. v. I. Compel, coerce, force.

2. Curb, restrain. Anto., 1. Cajole, coax. 2.

Loosen, liberate.

Construct. v. 1. Fabricate, erect, build,

Constrain. v. 1. Compel, coerce, force. 2. Curb, restrain. Anto., 1. Cajole, coax. 2. Loosen, liberate.
Construct. v. 1. Fabricate, erect, build, raise. 2. Make, form, frame, institute. Anto., 1. Overturn. 2. Destroy.
Consume. v. Devour, expend, waste, destroy. Anto., build up, save, keep.
Contagious. adj. 1. Catching, infectious. 2. Poisonous, deadly, pestilential. Anto., 2. Healthy, wholesome.
Contaminate. v. Defile, sully, pollute. Anto., clean, whiten, clear.
Contempt. n. Scorn, disregard, disdain. Anto., regard, liking, admiration.
Contempt. n. Scorn, disregard, disdain. Anto., tofty, noble, honorable.
Contentment. n. Ease, satisfaction. Anto., discontent, sorrow, melancholy.
Contest. n. See Conflict.
Contingent. adj. Uncertain, conditional. Anto., sure, certain, fixed.
Continual. adj. Uncertain, conditional.

Anto., sure, certain, fixed. Continual. adi. E. Continual. adj. Endless, unceasing, perpetual, eternal. Anto., intermittent, broken.

Contract.

n. Bargain, compact, agree-

Contract. n. Bargain, compact, agreement, stipulation.

Contrary. adj. 1. Opposite, counter, adverse. 2. Conflicting, repugnant. 3. Perverse, stubborn, obstinate. Anto., 1. Similar. 2. Unanimous. 3. Agreeable.

Control. v. Direct, regulate, manage,

govern.

Convenient. adj. Suitable, appropriate, useful. Anto., unsuitable, wrong.
Conversation. n. Talk, dialogue, colloque. Anto., silence.
Convertible. adj. Interchangeable. Interchangeable.

Convertible. adj. Interchangeable. Anto., unchangeable, immovable. Conveyance. n. 1. Transfer, alienation, deed. 2. Carriage. Convict. v. Condemn, find guilty. Anto.,

acquit, exculpate, exonerate.

Convince. v. Satisfy, persuade. Anto., dissuade.

Convivial. adj. Jovial, jolly, festive.

Anto., gloomy, sad, thoughtful.

Cool. adj. 1. Not warm. 2. Collected, calm, dispassionate. Anto., 1. Warm. 2. Excited, enthused.

Copy. v. 1. Transcribe. 2. Imitate. Anto., originate.

originate. originate.

Cordial. adj. Sincere, warm, hearty, heartfelt, ardent. Anto., heartless, cold, de-

ceitful.
Correct. adj. Right, true, accurate, fault-

Correct. adj. Right, true, accurate, fault-less. Anto., wrong, erroneous, faulty.
Correspondent. adj. Answerable, suitable. Anto., unsuitable, unfit.
Cost. n. Expense, charge, price.
Counsel. n. 1. Counsellor, attorney, advocate, barrister, lawyer. 2. Opinion, advice, admonition, recommendation.
Counterfeit. adj. 1. Forged, spurious.
2. Sham, feigned, simulated. Anto., 1. Genuine, real. 2. Sincere, actual.
Couple. n. Pair, brace.
Courage. n. Bravery, spirit, valor, heroism fearlessness. Anto covardice timidity

Courage. n. Bravery, spirit, valor, hero-ism, fearlessness. Anto., cowardice, timidity,

fear.

Courtesy. n. Civility, urbanity, polite-

ness. Anto., rudeness, boorishness.
Covenant. n. See Contract.
Covert. adj. Secret, disguised, hidden, concealed. Anto., open, displayed, shown. parsimony, penuriousness. Anto., generosity, Cowardice. ** Fear. timidimeter, parsillations.

ery, pusillanimity. Anto., courage, bravery, valor.

Coy. adj. Shy, bashful, reserved, demure, modest. Anto., bold, brazen, shameless. Craek. n. 1. Crevice, chink, cranny, opening, breach, fissure. 2. Explosion, re-

Crafty. adj. Shrewd, cunning, artful, astute, subtle, tricky. Anto., simple, artless, ingenuous.
Cravat. n. Necktie, neck-cloth, necker-

chief. Crave. v. 1. Beg, beseech, solicit, entreat, implore. 2. Desire. Anto., 1. Give, offer, confer. 2. Disdain.
Crazy. adj. 1. Insane, mad, lunatic. 2.

Crazy. adj. 1. Insane, mad, lunatic. 2. Ricketty, tottering. Anto., 1. Sane. 2. Strong, stalwart.

Ricketty, tottering. Anto., 1. Sane. 2. Strong, stalwari.

Create. v. 1. Cause, produce, originate. 2. Make, constitute. Anto., destroy.

Credit. n. 1. Trust, belief, faith, confidence. 2. Esteem, reputableness, regard. 3. Honor, merit. Anto., discredit, incredulity.

Creditable. adj. Reputable, honorable. Anto., dishonorable. shameful.

Credulous. adj. Unsuspecting, superstitious, gullible. Anto., knowing, disbelieving, doubtful.

Cred. n. Belief, doctrines, dogmas. Anto., skepticism, heterodoxy.

Crestfallen. adj. Discouraged, disheartened, depressed, dejected. Anto., encouraged, emboldened, determined.

Crisis. n. 1. Height, acmu. 2. Emergency, exigency, strait, pinch.

Criberion. n. Measure, test, standard.

Croak. v. Murmur, grumble, complain. Anto., rejoice, congratulate.

Crooked. adj. 1. Bent, curved, awry, distorted. 2. Dishonest, knavish, unfair, un-

Anto., rejoice, congratulate.

Crooked. adj. 1. Bent, curved, awry, distorted. 2. Dishonest, knavish, unfair, unscrupulous. Anto., 1. Straight. 2. Honest, fair, honorable.

Cross. adj. Captious, peevish, petulant, fretful, snappish. Anto., agreeable, goodhumored.

Cruel. adj. Pitiless, unmerciful, inhuman, barbarous, brutal, savage. Anto., kind, pitiful, merciful, human.

Cube. n. Die, a regular solid with six equal square sides.
Cultivation. n. 1. Culture, civilization, refinement. 2. Tillage. Anto., desolation, descert

desert.

Cure. n. 1. Remedy, restorative, corrective. 2. Healing, restoration. Anto., 1. Poison. 2. Relapse.

Curious. adj. 1. Prying, inquisitive. 2. Rare, unique, queer. Anto., 1. Uninterested, careless. 2. Common, ordinary, usual.

Current. adj. 1. Present, existing. 2. Common, general, rife. Anto., 1. Past. 2. Rare, unique, singular.

Curse. n. Imprecation, execration, malediction. Anto., blessing, benison.

Cursory. adj. Superficial, hasty, careless, desultory. Anto., thorough, careful, exact.

Curtail. v. Retrench, reduce, shorten, abridge, decrease. Anto., increase, augment, lengthen.

lengthen.
Custody. n. Care, keeping, watch, pro-

Custody. n. Care, keeping, watch, protection.
Custom. n. 1. Usage, practice, habit. 2.
Tax, impost, duty, tribute.
Cynical. adj. Morose, carping, sarcastic, snarling, satirical. Anto., agreeable, jovial, companionable.

Daily. adj. Diurnal, quotidian. Anto., irregular, disordered.
Dainty. adj. 1. Nice, delicate, savory, delicious. 2. Squeamish, fastidious. 3. Elegant, fine. Anto., 1. Nasty, tasteless, bitter. 2. Careless, slovenly. 3. Coarse.
Dalliance. n. Fondling, caressing, endearment.

2. Careless, slovenly. 3. Coarse.
Dalliance. n. Fondling, caressing, endearment.
Damage. v. Mar, harm, hurt, impair, injure. Anto., help, strengthen, defend.
Dampness. n. Moisture, humidity, damp. Anto., dryness, aridity.
Damsel. n. Lass, miss, maid, maiden, girl. Anto., lad, boy, youth, young man.
Danger. n. Risk, venture, hazard, peril, jeopardy. Anto., safety, security.
Daring. adj. Courage, bravery, valor, intepidity. Anto., cowardice, fear, timidity. Dark. adj. 1. Cloudy, rayless, murky, shady, unilluminated. 2. Gloomy, dismal. 3. Wicked, foul, attocious. 4. Obscure, mystical, mysterious. Anto., bright, light. 3. Honest, fair. 4. Open, intelligible.
Date. n. Time, period, age, era, epoch. Dead. adj. 1. Innaimate, lifeless, breathless, defunct. 2. Dull, frigid, obtuse, callous. 3. Useless, unprofitable. Anto., 1. Live, breathing. 2. Attentive, active, sharp. 3. Useful.
Deadly. adi. 1. Deleterious, destructive.

breathing. ...
Useful.

Deadly. adj. 1. Deleterious, destructive, noxious, fatal, mortal. 2. Rancorous, implacable. Anto., wholesome, healthy.

Dear. adj. 1. Beloved, darling, precious.
2. Costly, high-priced, expensive. Anto., 1.

Hated, despised, loathed. 2. Cheap, low,

Debase. v. See Abase.
Debate. v. Discuss, canvass, argue, dispute, contest.
Deceitful. adj. Deceptive, illusive, de-

pute, contest.

Deceltful. adj. Deceptive, illusive, delusive, fallacious. Anto., truthful, plai-, open, honest, correct.

Decelve. v. Delude, over-reach, fool, trick, cheat, gull, dupe.
Decide. v. Determine, conclude. Anto., differ, disagree.

Declaration. n. Assertion, averment, avowal, affirmation, asseveration. Anto., denial, negative.

Decorate. v. Deck, adorn, ornament, embellish, heautify. Anto., spoil, spot.
Decorate. v. Propriety, decency. Anto., impropriety, misbehavior.

Decov. v. Tempt, allure, entice, inveigle, seduce. Anto., repel, warn, advise.
Decrees. v. Diminish, lessen. Anto., increase, augment, replenish.
Decree. n. Order, mandate, fiat, edict.
Deduct. v. Separate, subtract, take away. Anto., add, increase, augment.
Defane. v. Asperse, calumniate, slander, villify. Anto., praise, glorify, celebrate, defend.

Defeat. v. 1. Beat, conquer, overcome, cout. 2 Ralk disenpoint haffer, foil, frus.

Defeat. v. 1. Beat, conquer, overcome, rout. 2. Balk, disappoint, baffle, foil, frus-

trate.

Defect. n. 1. Flaw, blemish, imperfection. 2. Fault, failing. Auto., perfection, improvement, beautv.

Defend. v. 1. Guard, shield, protect. 2.
Uphold, maintain, vindicate. Anto., 1. Expose. 2. Asperse, slander, defame.

Defer. v. Adjourn, delay, postpone.
Anto., push, force, expedite.

Deference. n. Regard, respect, reverence, homage. Anto., disrespect, irreverence, contumely.

Definite. adj. Certain, determined, exact,

Anto., uncertain, indefinite, vague. Defraud. v. Cheat, gull, over-reach.

Defy. v. Brave, dare, disregard, despise.

Anto., submit, humiliate, concede.

Deity. n. Divinity, Godhead, God. Anto.,

Dejected. adj. Depressed, disheartened, despondent. despondent. Anto., joyous, mercurial, glad. Delay. v. Linger, stop, procrastinate. Anto., hasten, expedite. Delectable. adj. Pleasant, agrecable, delightful. Anto., abominable, despicable, pasty.

nasty.

Delegate. n. Commissioner, represen-

Delegate. n. Commissioner, representative, deputy.

Delicious. adj. Delicate, palatable, luscious. Anto., bitter, nauseous.

Delightful. adj. Charming, enchanting, ravishing. Anto., displeasing.

Delinquent. n. Offender, wrong-doer, culprit, criminal.

Delirium. n. Wandering, hallucination, derangement.

derangement.

Delude. v. See Deceive.

Demand. v. Require, claim, exact. Anto., give, offer, relinquish.

Demolish. v. Destroy, overthrow, level, rain. Anto., build, construct, raise.

Demonstrate. v. Show, establish,

Demonstration. s. Proof, manifesta-

Demoralize. v. Corrupt, deprave, vitiate.

Anto, reform, rescue.

Denote. v. Imply, signify, indicate, mark, designate.

Deny v. 1. Contradict, gainsav. 2. Disown, disavow, abjure. 3. Withhold. Anto., avow, admit, concede.

Deny v. 1. Go, start leave set out

avow, admit, concede.

Depart. v. 1. Go, start, leave, set out.

2. Vanish, disappear. Anto., 1. Come, return.

Dependence. n. Reliance, trust, confidence. Anto., independence.

Depict. v. 1. Describe. 2. Delineate, portray, pencil, paint.

Deplore. v. Lament, mourn, bewail, bemoan. Anto., rejoice, congratulate, celebrate.

Deportment. n. Demeanor, behavior, carriage, conduct.
Deprecate. v. Regret. Anto., desire,

commend.
Depreciate. v. 1. Underrate, undervalue, ressen the price of. 2. Censure, degrade, traduce, malign. Anto., t. Overrate. 2. Praise, vindicate. — Depress. —

Depress. v. 1. Lower, drop, sink, 2. Deject, dispirit, chill. 3. Debase, humiliate. Anto., 1. Elevate, raise. 2. Encourage. 3. Exalt.

Derange. v. Confuse, displace, unsettle, disorder. Anto., arrange.
Descend. v. 1. Fall, drop, sink, go down.
2. Dismount. Anto., ascend.
Design. n. 1. Sketch, outline, plan, draught. 2. Intent, aim, purpose, object, scheme.

Designate. v. 1. Name, call, style, denominate. 2. Denote, indicate, show, specify.

nominate, 2. Denote, indicate, show, specify. 3. Appoint.

Desire. v. 1. Ask, request. 2. Wish, want, fancy, covet, crave.

Desolation. n. 1. Gloom, sadness, wretchedness, misery. 2. Ruin, destruction.

Ants., joy, pleasure, happiness.

Despair. n. Desperation, despondency, hopelessness. Anto, hope, cheerfulness.

hopelessness. Anto., hope, cheerfulness.

Despicable. adj. Mean, pitiful, contemptible, abject. Anto., elevated, generous, praiseworthy.

Despotie. adj. Absolute, arbitrary, imperious, tyrannical. Anto., free, democratic, constitutional.

Destiny. n. 1. Fate, necessity. 2. Lot, doom, fortune, fate.

Destroy. v. 1. Consume, waste, devour, desolate. 2 Demolish, overthrow, subvert.

3. Annihilate, extirpate, eradicate, kill. Anto., create, build, call together, construct.

Detach. v. Separate, sever, disjoin.

Anto., join.

Detain. v. Restrain, confine, delay, re-

Anto., join.
Detain. v. Restrain, confine, delay, retain. Anto., hasten, expedite, send away.
Detect. v. Descry, discover, expose.
Determine. v. 1. Settle, end, decide, conclude. 2. Lead, influence, induce. 3. Ascertain, verify. Anto., 1. Begin, commence, unsettle. 2. Follow. 3. Falsify, negative.
Detraction. n. Censure, slander, calumny, defamation. Anto., praise, commendation.
Develop. v. Unfold, open, evolve, grow. Anto., close, end, wither, wilt, droop.
Devil. n. 1. Satan, Behal, Lucifer, archenemy, the tempter, the adversary, the prince of darkness. 2. Demon. Anto., God, Deity.
Devoid. anto., full, complete, overflowing.
Dexterous. ad. Adroit, skillful, handy, apt, clever. Anto., awkward, unskillful, boorish, rough.
Diction. n. Expression, phraseology, language, style.

n. Expression, phraseology,

Dietion n. Expression, paraseology, language, style.
Dietionary. n. 1. Lexicon, glossary, vocabulary. 2. Encyclopædia.
Die. v. Expire, decease, wither, perish.
Anto, live, breathe, flourish, grow.

Different. adj. 1. Various, manifold, unlike, diverse. 2. Separate, distinct. Anto., similar, alike, homogeneous.
Difficult. adj. Arduous, hard, herculean.
Anto., easy, facile.
Digest. n. Compend, abstract, brief, epitome

tome.

Dilemma. n. Strait, predicament, quan-

dary.
Diligence. darv.

Diligence. n. Activity, industry, perseverance, assiduity. Anto., idleness, laziness, lassitude, languor.

Dimnish. v. See Decrease.

Direction. n. 1. Order. 2. Address, superscription. 3. Course, bearing.

Disaffection. n. Breach, disagreement, dissatisfaction, estrangement, alienation.

Disagree. v. 1. Quarrel, wrangle, bicker.

2. Dissent, differ, vary. Anto., 1. Conciliate, pacify. 2. Agree, equate.

Disappear. v. Vanish, pass, fade, dissolve. Anto., appear, emerge, come into view.

Disapproval. n. Disapprobation, dis-like, displeasure. Anto., approbation, liking, pleasure.

Disarrange. v. Unsettle, derange. Anto., order, marshal, fix. Disbellef. n. Incredulity, distrust, doubt, skepticism, infidelity. Anto., faith, belief,

Discomfort. v. Annoy, trouble, disturb, molest. Anto., comfort, case, quiet, pacify,

calm.

Discontent. n. Uneasiness, disquietude, dissatisfaction. Anto., comfort, ease, quiet, peace, contentment.

Discourtesy. n. Incivility, impoliteness, rudeness. Anto., courtesy, breeding, good manners, behavior.

Discredit. n. 1. Distrust. 2. Discrepute, obloquy. Anto., 1. Credit. 2. Reputation, standing.

Discuss. v. Canvass, sift, argue, ventilate,

Disease. n. Ailment, complaint, illness, sickness, malady. Anto., health.
Disgrace. v. Degrade, debase, sully, stain, dishonor. Anto., exonerate, exculpate, clear, release, justify, vindicate.
Dishonest. adj. Unfair, false, knavish, fordelse tests.

Dishonest. adj. Unfair, false, knavish, fraudulent. Anto., honest, reputable, right, proper, trusty, sincere, candid.

Dislike. n. Aversion, antipathy, repugnance, disgust. Anto., liking, admiration, love, regard.

Dismiss. v. Discharge, discard, turn off.

Dismiss. v. Discharge, discard, turn off. Anto., receive, take back.
Discollige. v. Discommode, offend, displease. Anto., oblige, favor.
Dispassionate. adj. Sober, calm, temperate, composed, imperturbable. Anto., passionate, stormy, disturbed.

Display. v. 1. Exhibit, show. 2. Unfold, open, spread. Anto., hide, conceal, cover, close.
Displease. v. 1. Dissatisfy, offend, disgust. 2. Anger, irritate, affiont. Anto., please, comfort, ease, quiet.
Disregard. v. Overlook, slight, neglect.

contemn. Anto., regard, favor, notice, watch,

Dissembler. n. Feigner, hypocrite.

Dissembler. n. Feigner, hypocrite.
Dissipate. v. 1. Lavish, squander, waste. 2. Dispel, scatter. Anto., 1. Save, economize. 2. Gather.
Dissolute. adj. See Abandoned.
Distant. adj. 1. Remote, far. 2. Reserved, cov, shy, cold. Anto., 1. Near, close. 2. Bold, shameless, impudent.
Distress. n. 1. Suffering, pain, anguish, agony. 2. Adversity, trouble. 3. Want, indigence, poverty. Anto., 1. Pleasure, ease, contentment. 2. Happiness. 3. Wealth, affuence.
Distrust. n. Mistrust, suspicion, discredit, disbelief. Anto., trust, confidence, re-

Distrust. n. Mistrust, suspicion, discredit, disbelief. Anto., trust, confidence, re-

liance.

Diversity. n. 1. Variation, unlikeness, difference. 2. Variety. Anto., sameness,

Diversity. n. 1. Variation, unincriess, difference. 2. Variety. Anto., sameness, likeness, homogeneity.

Doeile. adj. Apt, tractable, teachable. Anto., intractable, savage, untamable.

Doleful. adj. 1. Melancholy, woeful, sad, sorrowful. 2. Dolorous, gloomy. Anto., isonous bright happy.

sad, sorrowful. 2. Dolorous, gloomy. Anto., joyous, bright, happy.

Domestic. adj. Homely, tame. Anto., exoteric, extraneous, foreign, wild.

Doubt. n. 1. Suspense, irresolution, uncertainty. 2. Suspicion, mistrust. Anto., 1. Foreknowledge, resolution, certainty. 2. Confidence. Confidence.

Confidence.
Drag. v. Draw, pull, haul, tug.
Dread. n. Fear, awc, apprehension.
Anto., courage, boldness, valor.
Dreadful. adj. Awful, frightful, fearful, direful, horrible, terrible.
Droll. adj. 1. Odd, queer. 2. Comic, funny, farcical. Anto., 1. Usual, ordinary.
2. Solemn, funereal.
Droop. v. 1. Decline, fail, languish. 2.

2. Solemn, funereal.

Droop. v. 1. Decline, fail, languish. 2.
Fade, wilt, wither. Anto., 1. Rise, succeed.
2. Rloom, blossom, grow, wax.

Dull. adj. 1. Stupid, shallow. 2. Inert, sluggish. 3. Blunt, obtuse. 4. Gloomy. Anto., 1. Knowing, deep. 2. Active. 3. Sharp, shrewd. 4. Bright.

Dunce. n. Simpleton, fool, ninny, idiot, dolt, oaf, dullard. Anto., sage.

Eager. adj. 1. Zealous, ardent, impetuous.
2. Impatient, longing, yearning. Anto., 1.
Jukewarm. 2. Patient.
Earn. v. 1. Gain, obtain, get, acquire,
win. 2. Merit, deserve. Anto., squander.
Easy. adj. Light, not difficult. 2. Quiet,
comfortable. 3. Unconstrained. Anto., 1.
Difficult. 2. Uneasy. 3. Confined.
Eccentric. adj. Odd, peculiar, erratic,
anomalous, aberrant. Anto., usual, ordinary,
commonplace.
Ecstacy. n. 1. Delight. rapture.

n. 1. Delight, rapture, trans-Ecstacy. n. 1. Delight, rapture, transport. 2. Enthusiasm. Anto., despair, sorrow, torture.

Educate. v. Train, discipline, instruct,

Educate. v. Train, discipline, instruct, school, teach. Anto., ignore.

Efface. v. Cancel, blot, erase, expunge, obliterate. Anto., rewrite, strengthen.

Effective. adj. 1. Active, effectual. 2. Sufficient, cogent, energetic, forcible, potent. Anto., ineffectual, idle, slow, weak.

Effectual. adj. See Effective.
Egotistical. adj. Conceited, self-important, selfish. Anto., humble, lowly, generative.

Elevate. v. 1. Exalt, promote. 2. Raise,

Elevate. v. 1. Exalt, promote. 2. Raise, lift. 3. Improve, refine, ennohle. 4. Animate, cheer, clate. Anto., depress, lower, vulgarize, deaden, sadden.

Embarrass. v. 1. Disconcert, confuse, confound. 2. Distress, hamper, clog. 3. Perplex. Anto., assist, help, explain.

Embolden. v. Inspirit, reassure, animate encourage. Anto., abash, confuse.

Emergency. n. Strait, difficulty, exigency, necessity, crisis.

Eminent. adj. Exalted, remarkable, prominent, conspicuous, distinguished. Anto., obscure, lowly, meek, humble.

Emotion. n. Feeling, excitement, agitation, passion. Anto., calm, quiet, ease.

Employment. n. Engagement, occupation, pursuit, avocation, business. Anto., idleness, leisure.

Encourage. See Embolden.

Endless. adj. 1. Unlimited, boundless, illimitable, infinite. 2. Eternal. Anto., limited, ephemeral. 2. Finite, mortal.

Energetic. adj. Active, forcible, strong, vigorous, powerful. Anto., feeble, weak, enervated.

ervated.

revated. v. Wcaken, enfeeble, break, debilitate, paralyze. Anto., invigorate, nerve, strengthen.

Engagement. n. 1. Employment. 2. Encounter, battle. 3. Promise, pledge, assurance, contract.

Engross. v. Occupy, absorb, engage, monopolize, forestall. Anto., vacate, empty. Enhance. v. 1. Raise, heighten, swell, advance. 2. Augment, increase. Anto., lower, recede, reduce.

Enjoyment. n. Gratification, delight, pleasure, happiness. Anto., sorrow, sadness, grief.

picasure, happenser grief.
Enlarge. See Augment.
Enmity. n. Animosity, aversion, hostil-ity, hatred, malevolence. Auto., friendship, kindliness, love, admiration.

kindliness, love, admiration.

Ennoble. v. See Elevate.

Ennul. n. Listlessness, irksomeness, tedium, languor, lassitude. Anto, liveliness, vigor, enjoyment, buoyancy.

Enterprise. n. 1. Attempt, undertaking, endeavor, venture. 2. Energy.

Entertain. v. Divert, amuse, please. Anto., sadden, make gloomy.

Enthusiasm. n. Earnestness, devotion, zeal, ardor. Anto., frivolity, ennui, lukewarmness.

Entiree. v. See Allure.
Entreat. v. Petition, ask, beseech, implore, pray, supplicate.
Enumerate. v. Number, count, reckon,

numerate.

numerate.

Ephemeral. adj. Short-lived, transitory, living but a day. Anto., eternal, endless.

Ephemer. n. Gourmand, sybarite, sensualist, voluptuary. Anto., ascetic, stoic.

Epithet. n. Name, designation, appel-

lation.
Equable. Equable. adj. Even, regular, steady, equal, uniform. Anto., eccentric, unequal,

equal, uniform. Anto., eccentric, unequal, rugged.

Equestrian. s. 1. Rider, horseman. 2. Chevalier, chasseur, knight, cavalier. Anto., pedestrian, infantry, footman.

Equitable. adj. 1. Fair, reasonable, justifiable, right. 2. Just, honest, impartial. Anto., unjust, unreasonable, wrong, dishonest.

honest.
Equivocate. v. Lie, shuffle, dodge, quibble, prevaricate.

quibble, prevaricate.

Error. n. 1. Oversight, mistake, blunder.

2. Transgression, fault, offence, sin.

Erudition. n. Learning, knowledge, lore, science, scholarship. Anto., ignorance.

Eschew. v. Avoid, shun. Anto., seek.

Espouse. v. 1. Marry, wed. 2. Betroth.

Anto., divorce.

Establish. v. 1. Organize, found, institute, fix, plant, settle. 2. Prove. 3. Confirm, ratify. Anto., 1. Overthrow, destroy, unsettle.

2. Disprove. 3. Deny, refuse.

Esteem. n. 1. Honor, respect, reverence.

2. Valuation, opinion. Anto., contempt, irreverence.

2. Valuation, opinion. Anto., contempt, irreverence.

Eternal. See Endless.

Evasion. n. Quibble, shift, subterfuge, equivocation.

Evening. n. Dusk, twillight, eve, even, nightfall. Anto., morning, dawn, aurora.

Event. n. 1. Occurrence, incident, accident. 2. Conclusion, result, consequence.

Ever. adj. 1. Evermore, always, ave, perpetually, eternally. 2. At any time. Anto., never.

Evident. adj. Apparent, obvious, clear, palpable, manifest. Anto., obscure, hidden. Exalt. v. 1. Glorify, bless, praise, extol, magnify. 2. Raise, erect, elevate. 3. Dignify, ennoble. Anto., 1. Execrate. 2. Lower. 3.

Abase.

Exasperate. v. Irritate, vex, offend, provoke, incense, anger, enrage. Anto., soothe, mollify, pacity, please.

Excellent. adj. 1. Choice, prime, sterling, matchless, superior. 2. Good, virtuous, worthy. Anto., bad, low. 2. Villainous, worthless.

Excel. v. Suppass heat outdo exceed.

worthless.
Excel. v. Surpass, beat, outdo, exceed.
Anto., fail, fall behind.
Excerpt. n. Citation, extract, quotation.
Exculpate. v. Excuse, justify, pardon, clear, exonerate.
Anto., convict, indict, arraign, blame.
Exempter

raign, blame.
Excursion. n. Ramble, jaunt, trip, tour, Excuse. n. 1. Plea, justification, apology.

Excuse. n. 1. Plea, justification, apology.
2. Guise, color, pretext, pretence.
Execute. Sce Accomplish.
Exegesis. n. 1. Exegetics, explanation, exposition, interpretation.
Exercise. v. Practice, pursue. 2. Drill, train, discipline. 3. Exert, use, apply. Anto., rust, decay, degenerate, become sluggish.
Exhale. v. Breathe, evaporate, emit.
Auto inhale inspire.

rust, decay, degenerate, become stuggish.

Exhale. v. Breathe, evaporate, emit.

Auto., inhale, inspire.

Exhilarate. v. Animate, gladden, cheer, elate, inspirit. Anto., depress, discourage, deject, dampen, chill.

Exigency. See Emergency.

Exonerate. See Acquit and Exculpate.

Expectation. n. Prospect, anticipation, confidence, hope, trust, reliance. Anto., suddenness, abruptness, fear, dismay.

Expedite. v. Quicken, hurry, hasten, accelerate, speed. Anto., delay, retard, clog, bar.

Expense. n. Outlay, charge, expenditure,

Experience. n. 1. Knowledge, wisdom. Practice. Anto., 1. Ignorance. 2. Inexper-

Experiment. v. Proof, test, trial, ex-

mination, assay.

Explain. v. Expound, illustrate, unfold, interpret, elucidate. Anto., confuse, muddle, darken.

Expound. See Explain.
Expression. n. 1. Phrase, term, utterance, declaration. 2. Look, appearance, as-

Extend. v. 1. Expand, augment, dilate, enlarge, protract, prolong, 2. Yield, offer. Anto., 1. Abridge, shorten, lessen. 2. Take,

Anto., 1. Abridge, snorten, iessen. 2. 2 mee, receive.

Extraordinary. adj. Uncommon, signal, rare, unusual, remarkable. Anto., common, usual, customarv.

Extravagant. Adj. 1. Wasteful, lavish, profuse, prodigal. 2. Wild, absurd. 3. Unreasonable, unordinate, preposterous. Anto., 1. Stingy, miserable, close. 2. Probable, credible. 3. Common, ordinary, customary.

Extricate. v. Relieve, clear, disentangle. Anto., involve, entangle.

Exuberate. adj. Full, copious, liberal, lavish. Anto., empty, vacant, scarce.

Fable. n. 1. Tale, novel, romance, mvth.
2. Falsehood, fiction, tabrication, lie. Anto., history. 2. Truth, verity, fact.
Facetious. adj. Sportive, waggish, jocose, jocular.
Anto., serious, gloomy, saturnine.

rose, judiat. Anto., serious, groomy, saturnine.

Fall. v. 1. Miss, miscarry. 2. Omit, neglect. 3. Decay, wane, decline. 4. Break.

Anto., accomplish, succeed. 2. Perform. 3.

Grow, strengthen. 4. Mend.

Faithful. adj. 1. Constant, loval, true.

2. Reliable, truthful. 3. Close, strict. Anto., faithless. deceitful.

Faithless. adj. Perfidious, treacherous, false. Anto., faithful.

False. adj. 1. Untrue. 2. Deceptive, fallacious, spurious, counterfeit. 3. Incorrect. Anto., 1. True. 2. Real, genuine, actual. 3. Correct.

Family. n. 1. Class, race, lineage, tribe. 2. Household. 3. Order. Anto., individual. Fascinate. v. Charm, catch, captivate, bewitch, enamor. Anto., alarm, dismay, dis-

Fascinate. v. Charm, catch, captivate, bewitch, enamor. Anto., alarm, dismay, disenchant, intimidate.
Fast. n. 1. Abstinence, fasting. Anto., feast, gorge.
Fate. n. 1. Fatality, destiny, lot, doom. Anto., chance.
Fenst. n. 1. Festival, holiday. 2. Entertainment, banquet, carousal. Anto., fast, abstinence. abstinence.

1. Weak. 2. Languid. Feeble. sickly, frail, debilitated. Anto., strong, energetic, stalwart.

Feeling. n. 1. Affectation, sensibility, emotion. 2. Sensation, touch. Anto., cal-

Feeling. n. 1. Affectation, sensibility, emotion. 2. Sensation, touch. Anto., callousness, hard-heartedness.
Feminine. adj. 1. Delicate, soft, wemanly. 2. Effeminate. Anto., 1. Coarse, hard. 2. Masculine.
Fervor. n. 1. Eagerness, ardor, zeal. 2. Warmth. Anto., laziness, apathy.
Festival. n. See Feast.
Feudal. adj. Feodal, military (tenure.) Anto., allodial, democratic.
Fiekle. adj. Changeable, unstable, variable, capricious, inconstant. Anto., faithful, constant, immutable.
Final. adj. 1. Conclusive, decisive. 2. Ultimate, last. Anto., opening, beginning.
Fine. adj. 1. Nice, refined. 2. Little, small, minute. 3. Excellent. 4. Handsome, beautiful, elegant. 5. Delicate. 6. Light. Anto., coarse, large, mean, ugly.
Finish. v. 1. Conclude, end, terminate.

Finish. 7: 1. Conclude, end, terminate. 2. Perform, accomplish, complete. 3. Perfect. Anto., 1. Begin, open. 2 and 3. Destroy, tear down.

stroy, tear down.
Firmness. n. 1. Strength, stability. 2.
Solidity, hardness. Anto., 1. Weakness. 2.
Softness, penetrability.
Flag. n. Standard, colors, ensign, ban-

er.

Flashy. adj. Gay, airy, jaunty, showy, awdry, ostentatious, flaunting. Anto., somere, solemn.

Flattery. n. 1. Adulation, fawning, serbre, solemn. Flattery.

Flattery. n. 1. Adulation, fawning, scrvility, sycophancy, obsequiousness. 2. Compliment. Anto., blame, objection, disapproval, detraction.

Flavor. n. 1. Taste, smack, savor. 2.
Smell, odor, fragrance. Anto., tastelessness.

Flaw. n. 1. Fracture, crack. 2. Speck,
spot, fault, imperfection, defect, blemish.
Anto., 1. Whole, solid. 2. Perfect, immaculate, clear.

late clear.

Flimsy. adj. 1. Thin, slight. 2. Trivial, feeble, weak, frivolous, shallow. Anto., 1. Strong, stalwart. 2. Worthy, good, earnest,

deep. Fluctuate. v. 1. Waver, vacillate. 2.

Fluency. n. Flow, glibness, volubility.

Anto., silence, taciturnity.

Fondness. n. 1. Liking, partiality. 2.

Love, tenderness. Anto., hate, dislike.

Love, tenderness. Anto., hate, dislike.
Food. n. Victuals, viands, fare, subsistence, aliment, nutriment.
Fool. See Dunce.
Fopplish. adj. Dandified, coxcombical, dandyish. Anto., slovenly, untidy.
Forcible. adj. 1. Vigorous. 2. Strong, potent, cogent, powerful. 3. Violent. Anto., feeble, weak, punv.
Forego. v. Resign, yield, surrender, relinquish, abandon. Anto., take, receive, demand.

mand.

Foresight. n. Prudence, precaution, anticipation, forecast, prescience. Anto., imprudence, rashness.

Forethought. n. See Foresight.

Forgive. v. Excuse, absolve, pardon, acquit. Anto., avenge, charge, indict, implicate, accuse.

Formidels.

cate, accuse.

Formidable. adj. Dreadful, tremendous, terrible, shocking. Anto., small, ridiculous, puny.

Forsake. v. Abandon, quit, desert, renounce, forswear. Anto. cleave.

Forswear. v. 1. Renounce, forsake, desert. 2. Recant, abjure. Anto., subscribe.

Fortitude. n. Resolution, firmness, en-

Fortitude. n. Resolution, firmness, endurance. Anto., weakness.
Fortune. n. 1. Chance, luck, fortulty.
2. Property, estate, riches, wealth. 3. Destiny, lot, fate, doom. Anto., 2. Poverty.
Fragile. adj. Weak, feeble, frail, fragible. Anto., strong.
Fragrance. n. Aroma, perfume, balminess, incense. Anto., stench, effluvia.
Frail. adj. See Fragile.
Frank. adj. Open, sincere, artless, candid. Anto., artful.
Fraud. n. Cheat, deception, collusion, guile. Anto., honesty.
Freak. n. Fancy, humor, crotchet, vagary, whim, caprice. Anto., purpose, resolution.
Freo. adj. 1. Unrestrained, unobstruct-

Free. adj. 1. Unrestrained, unobstructed. 2. Gratuitous, willing. 3. Frank, sincere, artless. 4. Generous, liberal. Anto., 1. Slavish. 2. Costly. 3. Artful. 4. Stingy. Free. r. 1. Clear, rid. 2. Release, liberate, emancipate. Anto., bind, enslave. Freeze. r. 1. Congeal. 2. Chill, be numb. Anto., melt.
Fretful. adj. Captious, waspish, splenetic, snappish, petulant. Anto., equable, good-humored.
Frivolous. adj. See Flimes. adj. 1. Unrestrained, unobstruct-

good-humored.

Frivolous. adj. See Flimsy.

Frugality. n. Carefulness, economy,
thrift. Anlo., extravagance, wastfulness.

Fruitful. adj. 1. Fecund, prolife, productive. 2. Plenteous. Anlo., sterile, fruit-

ductive. 2. Plenteous. Anto., sterile, fruit-less, unproductive. Fruitless. adj. Barren, sterile, unpro-ductive. 2. Futile, useless. Anto., fruitlul. Frustrate. r. Balk, baffle, defeat, foil, disappoint. Anto., expedite. Fully. adj. Wholly, entirely, completely. Anto., partly.

Anto., partly.
Furniture. n. 1. Effects, goods, movables, chattels. 2. Apparatus. 3. Decorations,

ornaments.
Futile. adf. 1. Useless, fruitless, vain, idle. 2. Frivolous, trifling. Anto., 1. Fruitful. 2. Earnest.

s. 1. Challenge. 2. Pawn, secur-Gage. n. 1. Challenge. 2. Pawn, security, pledge.

Gain. n. Advantage, benefit, profit, emolument. Anto., loss.

Gain. v. Get, secure, win, earn, achieve, obtain, procure. Anto., lose.

Gang. n. Band, party, set, company, coterie. Anto., individual.

Garb. n. Dress, habit, attire, apparel. Anto., nudity, nakedness.

Garble. v. Falsify, misquote, mutilate. Anto., restore, verify.

Garrulity. n. Babble, talkativeness, loquacity. Anto., tactiurnity.

Gathering. n. Meeting, company, assembly, concourse. 2. Earning, acquisition. 3. Abscess.

Gaudy. adj. See Flashy.

Gawky. adj. See Flashy.

Gawky. adj. See Flashy.

Gamerous. adj. Liberal, bountiful, magnificent, noble. Anto., 1. Stingy. 2. Mean.

Gentle. adj. 1. Bland, lenlent, kind, mild, humane. 2. Docile, tame, quiet, tractable. Anto., rough. ity, pledge.

ble. Anto., rough.

Genuine. adj. 1. True, authentic.

Genuine. adf. 1. True, authentic, unalloyed. 2. Unaffected, sincere. Anto., false. Giddiness. n. Dizziness, vertigo. Giddy. adf. 1. Dizzy. 2. Fickle, unstable. 3. Flighty, careless, heedless. Anto., sedate, balanced.

sedate, balanced.

Gift. n. 1. Endowment, talent, faculty, genius. 2. Present, donation, offering, gratuty, contribution, subscription, douceur.

Gigantic. adj. Huge, vast, colossal.

Anto., small, mean, little.

Gingerly. adv. Dainty, careful, cautious, fastidious. Anto., rash, careless.

Girdle. n. Band, cincture, belt, cestus, zone.

zone. Glad. Glad. adj. 1. Pleased, gratified, rejoiced, Cheerful, joyous. 3. Gratifying. Anto., d, sombre.

Gloomy. adj. 1. Dull, obscure, dismal, dusky, lowering. 2. Depressed, dejected, sad. Anto., bright, joyful.

Go. v. 1. Move, advance, proceed. 2. Depart. 3. Extend. 4. Fare. 5. Lend, contribute. Anto., come. Go. interj. Avaunt, begone. God. n. Lord, Creator, Almighty, Omnipotence, Providence, Jehovah. Good Nature. n. Kindness, amiability, benevolence, benignity. Anto., malevolence, rudeness.

rudeness.
Goods. n., fl. 1. Wares, merchandisc.
2. Chattels, furniture.
Grandeur. n. Greatness, sublimity. 2.
Dignity, st. e, magnificence, majesty. Anto.,
humility.

Dignity, st. e, magnincence, majesty. Anto, humility.
Grant. v. 1. Concede, admit. 2. Give, bestow, vouchsafe. 3. Transfer, convey. Anto., take.
Grateful. adj. 1. Obliged, beholden, thankful. 2. Palatable, cordial, delicious, refreshing. 3. Pleasant, agreeable, delightful. Anto., ungrateful.
Gratify. v. Indu.xc, humor, delight, satisfy, please. Anto., displease.
Great. adj. 1. Bulky, big, targe, huge, vast. 2. Noted, distinguished, eminent, exalted, illustrious. 3. Noble, magnanimous. 4. Numerous. Anto., small.
Greedy. adj. Gluttonous, rapacious, instate, ravenous, voracious. Anto., generous, unselfish.
Grief. n. Distress, sorrow, regret, affiction, tribulation, woe, anguish. Anto., joy.
Gruff. adj. Blunt, harsh, rough, rude, churish. Anto., polite.

tion, tribulation, woe, anguish. Anto., joy.
Gruff. adf. Blunt, harsh, rough, rude, churlish. Anto., polite.
Grumble. v. Croak, murmur, complain, growl. Anto., rejnice.
Guard. v. Protect, watch, shelter, shield, defend. Anto., attack, harass.
Guarded. adf. Careful, watchful, cautious, wary. Anto., unguarded.
Guidance. n. Lead, conduct, direction, government. Anto., following.
Guile. n. Artifice, duplicity, deceit, subtlety, cunning, craft, fraud. Anto., honesty simplicity.
Guiltless. adf. Innocent, blameless, spot-

simplicity.

Guiltless. adj. Innocent, blameless, spotless, pure, immaculate. Anto., guilty.

Guilty. adj. Culpable, sinful, criminal.

Anto., guiltless.

Gyrate. v. Whirl, rotate, revolve.

н

Hail. v. Greet, welcome, salute.
Hale. adf. Sound, strong, healthy, hardy, hearty, robust. Anto., feeble.
Handsome. adf. 1. Comely, fair, pretty, beautiful. 2. Ample, plentiful. 3. Generous, magnanimous, noble. Anto., ugly.
Happiness. n. Enjoyment, bliss, beatitude, felicity. Anto., sorrow.
Harass. v. 1. Worry, vex, plague, tease, trouble, distress. 2. Fag, exhaust, jade. Anto., please, comfort, protect.
Hard. adf. 1. Compact, solid, impenetrable. 2. Knotty, difficult. 3. Arduous, laborious. 4. Unfavorable. 5. Callous, cruel. Anto., soft.
Hasten. v. Accelerate, dispatch, speed, quicken, expedite. Anto., hinder, delay.

, soft.
sten. v. Accelerate, dispatch, speed,
sen, expedite. Anto., hinder, delay.
ste. v. Detest, abominate, loathe, abAnto., love.
ste. n. Enmity, antipathy, hostility, quicken, expedite

Hate. v. De

Hate. v. Detest, abominate, loathe, abhor. Anto., love.
Hate. n. Enmity, antipathy, hostility, detestation, hatred. Anto., love.
Haughy. adj. Lofty, proud supercilious, arrogant. Anto., modest.
Head-strong. adj. Unruly, dogged, stubborn, obstinate. Anto., reasonable, judicious.
Heal. v. 1. Remedy, cure, restore. 2. Settle, reconcile. Anto., 1. Hurt, wound. 2. Unsettle, disrupt.
Healthy. adj. Well, sound, hale, vigorous. Anto., sickly.
Hearken. v. Attend. listen, hear.
Hearty. adj. See Itale.
Heart-broken. adj. Desolate, wretched, disconsolate, inconsolable. Anto., joyous, happy.

disconsolate, measurements and the happy.

Heartless. adj. Unkind, cruel, cold, pitless. Anto., cordial, kind.

Heavenly. adj. 1. Angelic, divine, god-like. 2. Celestial. Anto., Mundane.

Heedless. adj. Careless, thoughtless, inattentive, negligent. Anto., careful.

Heighten. v. I. Raise, elevate, exalt. 2. Increase, enhance. 3. Intensify. Anto., lower, decrease.

Hell. s. Hades, purgatory Gehenna.

Hell. n. Hades, purgatory Gehenna.

Anto., heaven.

Helpful. adj. Useful, benefeant, convenient. Anto., helpless.

Helpless. adj. Weak, feeble, infinn, power-less, impotent, imbecile. Anto., strong, helpful.

ress, impotent, imocene. Anno, strong, nery ful.

Herculean. adj. See Strong, Difficult.
Heroic. adj. 1. Bold, valiant, brave, courageous, noble, dauntless. 2. Epic. Anto,
1. Cowardly.

Hesitation. n. Doubt, suspense, uncertainty, vacillation. Anto, determination.

Hideous. adj. Dreadful, frightful, horrible, appaling, ghastly. Anto, beautiful.

Highwayman. n. Robber, bandit, brig.nd, road agent, marauder.

Hinder. v. Stop, impede, retard, check, thwart. Anto, hasten.

Hint. n. Allusion, suggestion, intimation, insinuation.

Holiday. n. Festival, anniversary, celebration. Anto, fast-day.

Instruction.

Holiday. n. Festival, anniversary, celebration. Anto., fast-day.

Holy. adj. 1. Good, plous, religious, devout, pure, saintly, godly. 2. Hallowed, sacred. Anto., wicked, bad.

Home. n. Abode, domicile, residence, dwelling.

dwelling.

Homely. adj. 1. Plain, coarse, uncomely.
2. Domestic, homelike. 3. Ugly. Auto.,

Homely, adj. 1. Main, coarse, unconseq.
2. Domestic, homelike. 3. Ugly. Anto, beautiful, handsome.

Honest. adj. 1. Equitable, right, proper, honorable. 2. True, faithful, just, upright, trustworthy. 3. Candid, sincere. Anto., dishonest, inequitable.

Honor. n. Credit, esteem. 2. Respect, homage. 3. Distinction, dignity. 4. Integrity, nobility, probity. Anto., dishonor.

Honor. r. Dignify, exalt. 2. Observe, celebrate. 3. Respect, reverence, vencrate. Anto., abase.

Anto., abase. Believe, trust, desire, expect. Hope.

Hope. v. Believe, trust, desire, expect.
Anto., despair.
Hostile. adj. 1. Adverse, opposite, contrary, repugnant.
amicable. friendly.
Hostility. n. See Hate.
Hot. adj. 1. Fiery. 2. Pungent, biting, acrid. 3. Glowing, ardent, fervid. 4. Passionate, irascible, impetuous. Anto., cold,

cool.

Hue. n. Tint, tinge, shade, color.

Huge. adj. See Gigantic.

Humane. a. Kind, charitable, benevolent, gentle, tender. Anto., cruel.

Humility. n. Modesty, meekness, lowliness, humbleness.

Anto., grandeur.

Humility. n. Modesty, meckness, lowliness, humbleness. Anto., grandeur.
Humorous. adj. Funny, witty, jocular, jocose, facetious. Anto., serious.
Hurry. v. See Hasten.
Hurry. n. 1. Haste, dispatch, promptitude, celerity. 2. Bustle, flutter, precipitation. Anto., hinder, delay.
Hypoerlsy. n. 1. Deceit, dissimulation, imposture. 2. Cant, pharisaism, sanctimoniousness. Anto., openness, truth, candor.
Hypoerlte. n. 1. Cheat, pretender, impostor, dissembler. 2. Pharisee, canter.
Hypothesis. n. Theory, supposition.

Ideal. adj. Fancied, unreal, shadowy, im-

Ideal, adj. Fancied, unreal, shadowy, imaginary, Anto., real.

Idleness. n. Inactivity, inertness, laziness, sloth. Anto., labor.
Ignorance. n. Darkness, blindness, nescience, illiteracy. Anto., knowledge.

Ill-bred. adj. Uncourtly, uncouth, unpolished, impolite, rude. Anto., polite.
Illustrious. adj. 1. Bright, glorious. 2. Famous, celebrated, eminent, renowned. Anto., 1. Dim. 2. Unknown, infamous.
Immoderate. a. Unreasonable, extravagant, inordinate, excessive. Anto., moder-

gant, inordinate, excessive. Anto., moder-

Imperious. adj. See Despatic. Impetuous. adj. Hasty, precipitate, passionate, violent, vehement, Iurious. Anto.,

Importance. s. Moment, weight, concern, significance, consequence. Anto., frivolity.

Impression. s. 1. Stamp, impress. 2. Idea, notion. 3. Effect, sensation, influence.

Idea, notion. 3. Effect, sensation, influence.
Improve. v. 1. Mend. 2. Progress. 3. Rise, increase. Anto., deteriorate, lessen.
Imprudent. adj. Incautious, indiscreet, injudicious, careless, rash. Anto., cautious.
Impure. adj. 1. Unclean, dirty, foul, filthy.
2. Coarse, gross, immodest, indecent, obscene, vulgar, lewd. Anto., pure.
Inability. n. 1. Incompetency, incapacity, inefficiency, impotence. 2. Disability, disqualification. Anto., ability.
Inaecurate. adj. Inexact, incorrect, erroneous. Anto., accurate.
Inapt. adj. Unfit, unsuitable, inappropriate, inapposite. Anto., suitable, meet.

Inapt. adj. Unfit, unsuitable, inappropriate, inapposite. Auto., suitable, meet.
Incapacity. n. See Inability.
Incompatible. adj. Unadapted, incongrious, inconsistent, unsuitable. Auto., compatible.
Incompetent. adj. 1. Unable, incapable.
2. Disqualified, incapacitated, unfit. 3. Insufficient. Auto., able, fit, sufficient.
Inconsistent. adj. 1. Contrary. See Incombatible.

compatible.
Incontinence. n. Unchastity, wantonness, lechery, lewdness, lasciviousness. Anto.,

chastity.

Inconvertible. adj. Unchangeable, unalterable, not convertible. Anto., change-

Incorrect. adj. 1. Faulty. 2. Inaccurate, inexact, erroneous, false, untrue. Anto.,

Indefinite. adj. Undefined, indistinct, unsettled, doubtful, uncertain, loose. Anto.,

definite.

Independence. n. Liberty, freedom, self-direction. Anto., dependence.
Individual. n. Being, person, character. Anto., band, community.
Ineffectual. adp. 1. Feeble, weak, power-less. 2. Inoperative, unavailing, useless, abortive. Anto., effectual.
Inequitable. adj. Unfair, unjust, dishonorable. Anto., equitable.

Inequitable. adj. Unfair, unjust, dishonorable. Anto., equitable.
Inexperience. n. Ignorance, greenness, rawness. Anto., experience.
Ingenuous. adj. Honest, frank, candid, srless, guileless. Anto., crafty.
Inharmony. n. Discord, harshness, dissonance, discordance. Anto., concert.
Innocent. adj. 1. Harmless, innocuous. 2. Clean, guiltless, spotless, immaculate. Anto., Guilty.

Insanity. n. See Lunacy. Inspire. v. 1. Inhale. 2. Infuse. instil. Inspire. v. 1. Inhale. 2. Infuse, instil. 3. Cheer, animate, inspirit. Anto., 1. Respire. 3. Discourage.

Discourage.

Instruction. n. 1. Direction, mandate. 2. Discipline, teaching, training, education. 3. Counsel, precept.

Insult. n. Affront, indignity, offence, outrage. Anto., apology, favor.

Integrity. n. Honesty, honor, rectutude, probity, virtue. 2. Completeness, entirety. Anto., dishonesty.

Intellect. n. Mind, sense, brains, reason, understanding. Anto., body.

Intemperance. n. Excess, dissipation. Anto., temperance.

Auto., temperance.
Intense. a.j. 1. Extreme, excessive. 2. Severe, close, strained. 3. Ardent, earnest. Auto., slight, frivolous.

Intercede. v. Mediate, plead, arbitrate, interpose. Anto., demand, require.

Intermission. n. Pause, rest, suspensioh, stop, interruption. Anto., continuation.

Intermit. v. Subside, abate, cease. Anto., continue persist.

Intermit. v. Subside, abate, cease. Anto., continue, persist.

Interpose. v. I. Remark. 2. Mediate, arbitrate, intercede.

Interpret. v. Construe, render. 2. Define, explain, clucidate, decipher.

Interrogate. v. Ask, examine, question, catechize. Anto., answer.

Interval. n. Season, term :pace, spell, period. Anto., continuation.

Intervening. adj. Interjacent, intermediate, interposed.
Intimidate. v. Daunt, frighten, alarm, scare, terrify. Anto., embolden, encourage. Intoxication. n. Drunkenness, inebriety, inebriation. Anto., temperance, sobriety. Intrepid. adj. Brave, daring, valorous, bold, dauntless. Anto., cowardly.
Intrinsic. adj. 1. True, genuine, essential, real. 2. Inherent, inborn, native. Anto. 1. Counterfeit. 2. Alien, foreign.
Introductory. adj. Preliminary, prefatory.

tory.

Intrude. v. 1. Obtrude. 2. Trespass, infringe, encroach. Anto., eject, expel, protrude.

trude.

Intrust. v. Consign, deliver, commit, confide. Anto., distrust.

Invade. v. 1. Assault, attack, assail. 2. Infringe. Anto., repel.

Invalid. adj. 1. Weak. 2. Null, void. Anto., valid.

Invalid. n. Valetudinarian, sick person.

Invective. n. 1. Abuse, contumely. 2. Satire, sarcasm lampoon. Anto. nanegyvic.

Invective. n. 1. Abuse, contumely. 2. Satire, sarcasm, lampoon. Anto., panegyric. Invent. v. 1. Devise. 2. Fabricate. 3. Imagine, originate, concoct. Anto., copy, fol-

Invest. v. 1. Put at interest. 2. Array,

Invest. v. 1. Put at interest. 2. Array, clothe, dress.

Investigation. n. Scrutiny, examination, inquisition, inquiry.

Invigorate. v. Animate, fortify, strengthen. Anto., weaken.

Invincible. adj. Unconquerable. 2. Insurmountable, insuperable. Anto., vincible.

Invite. v. 1. Bid, summon, ask, request.

2. Attract, entice allure. Anto., reject, delay, provoke

Involve. v. Include, embrace. 2. Entangle, implicate. 3. Entwine, interweave.

Anto., simplify, analyze.

Irksome. adj. Weary, tiresome, tedious, wearisome. Anto., pleasant.

Irony. n. Banter, mockery, raillery, ridicule. Anto., praise.

Irrational. adj. 1. Brutish. 2. Unwise, silly, unreasonable, absurd. Anto., rational.

Irrefragible. adj. Undeniable, irrefutable, indubitable, incontestable. Anto., dubious.

Irritate. v. Fret. nettle. incense. pro-

Irritate. v. Fret, nettle, incense, provoke, exasperate. Anto., soothe.
Irruption. u. Inroad, foray, raid, in-

cursion.

Issue. n. 1. Offspring, children, progeny.

2. Conclusion, outcome, result.

3. Outlet, exit. Anto., return, inlet.

Itinerant. aif. Wandering, nomadic, roving, travelling. Anto., homely, settled.

Jade. v. Fatigue, weary, tire, fag, exaust. Anto., invigorate.
Jealousy. v. Suspicion, apprehension.

aust. Anto, invigorate. Jealousy. n. Suspicion, apprehension. Into, confidence. Jest. n. Quip, crank, joke, sally, witti-

Jocose. adj. Droll, witty, comical, spor-Jocone. adj. Droil, witty, comical, sportive, facetious. Ano., serious.
Jocund. adj. Joyful, blithe, jolly, gay, buxom. Anto., sad, gloomy.
Join. v. 1. Combine, unite, couple. 2.
Annex, add, attach. Anto., separate.
Joke. n. See Fest.

Jollity. n. Merriment, gayety, fun, frolic, hilarity.

Journey. n. Excursion, trip, expedition,

Joy. n. Happiness, bliss. 2. Delight, gladness, glee, cestacy, transport. Anto.,

Joyous. adj. Glad, happy, gleeful, joyful, blly. Anto., sad.
Judgment. n. 1. Opinion, decision, esti-

mate. 2. Sense, discernment, sagacity, wis-

Just. adf. 1. Exact, correct, true. 2. Merited, deserved. 3. Equitable. 4. Honest, fair, upright. Anto., Unjust, unfair, fraudulent.

Justice. n. 1. Right, fairness, equity. 2. Judge. Anto., injustice.
Justify. v. Warrant, defend, exculpate, vindicate. Anto., criminate.
Justness. n. 1. Fairness, right, equity.
2. Accuracy, propriety. Anto., 1. Criminality.
2. Impropriety.
Juvenile. adj. Childish, puerile, young, youthful. Anto., manly.

Keen. adj. 1. Shrewd, sagacious, astute.
2. Earnest, zealous. 3. Severe, poignant, caustic. 4. Sharp. Anto, dull.
Keep. v. 1. Retain. 2. Fulfil, observe.
3. Support, maintain. 4. Preserve, continue.
5. Celebrate. Anto., dispense, distribute.

tribute.

Kind. adj. Good, clement, humane, gentle, sympathetic, tender, affectionate. Anto, cruel, unkind.

Kingly. adj. Royal, august, imperial, regal. Anto., plebeian.

Knowledge. n. 1. Learning, lore, scholarship, erudition. 2. Notice. 3. Perception, judgment. Anto., ignorance.

Labor. n. 1. Toil, work, effort, drudgery. 2. Child-birth, parturition. Anto. Idleness.
Lack. n. Need, deficiency, scarcity, in-

ufficiency. Anto., plenty.

Lament. v. Mourn, grieve, weep. Anto., sufficiency.

rejoice.

Lancinate. v. Sever, mangle, tear, lacerate. Anto., heal, join.

Land. n. Soil, ground, earth, real prop.

Landscape. n. Prospect, view, rural

Language. n. Speech, expression, vernacular, dialect, tongue.

Languish. v. 1. Faint, wither, fade, Languish. v. 1. Faint, wither, fade, droop. 2. Look tender. Anto., invigorate, strengthen.

Larceny. n. Theft, pilfering, thievery,

strengthen.

Larceuy. n. Theft, pilfering, thievery, stealing.

Large. adj. 1. Bulky, big, great. 2. Broad extensive. 3. Full, abundant. Anto., small. Lascivious. a. Loose, unchaste, lustful, lewd, lecherous. Anto., chaste, pure.

Last. adj. 1. Latest. 2. Ultimate, final. 3. Hindmost. 4. Extreme. Anto., first.

Last. v. Remain, continue, endure. Anto., perish, dissolve.

Latent. adj. Secret, unseen, veiled, concealed. Anto., patent.

Laugh. n. Laughter, cachinnation, roar, guffaw. Anto., sigh.

Laughable. adj. Droll, ridiculous, farcical, comical. Anto., solemn.

Lavish. adj. Extravagant, wasteful, profuse. Anto., niggardly.

Lavish. v. Dissipate, waste, squander.

Law. n. 1. Rule, regulation, statute, enactment, ordinance. 2. Formula. 3. Code. 4. Jurisprudence. Anto., lawlessness.

Lawful. adj. Legal, legitimate, constitutional. Anto., unlawful.

Lawyer. n. Attorney, counsellor, advocate, counsel.

Lazy. adj. Idle, dronish, sluggish, inactive, slothful. Anto., active, numble.

Lead. n. Direction, guidance, leadership. Anto., following.

League. n. Combination, alliance, confederacy, union. Anto., disunion, separation.

Lean. v. Incline. 2. Bear, recline, rest.

tion.
Lean. v. Incline. 2. Bear, recline, rest.
3. Tend.
Leave. n. Allowance, permission, license, liberty. Anto., prohibition.
Lecture. n. Lesson, discourse, prelections.

Legacy. n. Gift, bequest, devise.
Legal. adj. See Lawful.
Legible. adj. Fair, readable, plain. Anto., illegible.

Leisure, n. Spare time. Anto., occupation Lengthen. v. 1. Extend, protract, prolong, continue. 2. Stretch, elongate. Anto., shorten.

shorten.
Leniency. n. Tenderness, mercy, mild-

Leniency. n. Tenderness, mercy, mildness, clemency. Anto., cruelty.
Letter. n. Note, epistic. 2. Alphabetical character.
Levity. n. Frivolity, giddiness, flightiness. Anto., sobriety.
Liberality. n. 1. Bownty, generosity, beneficence, charity. 2. Toleration, candor. Anto., closeness, meanness.
Liberate. v. Discharge, emancipate, release. Anto., arrest.
Lie. n. Fib, untruth, falsehood. Anto., truth.

truth.

Lie. v. 1. Falsify. 2. Recline. 3. Rest, remain. Anto., 1. Verify.

Life. v. 1. Vitality. 2. Existence. 3. Memoir, biography. Anto., death.

Light. v. 1. Daylight, sunrise. 2. Illumination. 3. Instruction. 4. Window. Anto., darkness.

Light. cdi. Burnel.

darkness.

Light. adj. 1. Buoyant. 2. Easy. 3. Porous. 4. Unburdened. 5. Trifling, small. 6. Flimsy. 7. Airy, gdy. Anto., heavy.

Like. adj. Resembling, same, similar.

Anto., unlike,

Like. v. Choose, prefer, list, elect. Anto., dialike.

dislike

Liking. n. Choice, preference, par-tiality. Anlo., impartiality. Limited. adj. Confined, bounded, restrain-ed, defined, restricted, circumscribed. Anlo., unlimited.

Lineage. s. Race, house, family, ances-Link. v. Conjoin, tie, bind, connect, unite. Anto., loosen.

Liquidation. n. Adjustment, discharge, ettlement, payment.

Little. adj. 1. Small, diminutive, minute, inv. 2. Scanty, inconsiderable. Anto., while large.

tiny. 2. Scanty, inconsiderable. Anto., noble, large.

Live. adj. 1. Existing, alive, living. 2.

Alert, enterprising. Anto., dead.

Live. v. 1. Exist. 2. Endure, continue. 3. Abide, dwell, reside. 4. Subsist.

Anto., die.

Anto., die.
Lively. adj. 1. Agile, quick, nimble. 2.
Sprightly, blithe, joyous. 3. Vigorous, piquant, strong. 4. Vivid. Anto., slow, sluggish, languid.
Loathsome. adj. Offensive, disgusting, appalling, revolting. Anto., delectable, pleasent.

Lofty. 1. High. 2. Dignified, sublime. 3. Haughty, proud, arrogant. Anto., humble, modest.

modest.

Lonely. adj. 1. Companionless, lone, solitary. 2. Secluded, lonesome, isolated.

Anto., crowded.

Loosen. v. 1. Relax. 2. Loose, release.

Anto., tighten, tie, bind.

Lordly. adj. Dignified, majestic, loftv.
2. Proud, haughty. Anto., meek, lowly, humble. humble.

Lose. v. 1. Miss, forfeit. 2. Waste, squan-

der. Anto., 1. Find. 2. Gain, earn.

Loss. n. Deprivation, privation, forfeiture, waste, damage, detriment, destruction. Anto., gain, profit.

Anto., gain, profit.

Love. v. Like. Anto., hate.

Love. n. Affection, attachment, fondness, liking. Anto., hate.

Low. adj. 1. Depressed. 2. Mean, abject, disreputable. 3. Cheap. Anto., 1. High. 2. Proud, worthy. 3. Dear.

Loyal. adj. Faithful, true. Anto., disloyal, tratorous.

loyal, traitorous.

Lucid. adj. 1. Clear, transparent, pellucid, distinct, plain, bright, shining. Anto., ambiguous, opaque, sombre.

Luck. n. Chance, hap, fortune, fate.

Lunacy. n. Derangement, madness, insanity, crazinoss. Anto., sanity.
Luxuriate. v. I. Revel, wanton. 2. Flourish. Anto., 1. Chasten. 2. Wither.

Soaking, softening, Maceration.

maceration. n. Soaking, softening, str.ping. Anto., drying.
Machination. n. Plot, stratagem, intrigue, conspiracy. Anto., artlessness.
Mad. adj. 1. Crazy, delirious, insane.
2. Enraged, frantic, violent. Anto., 1. Sane.
2. Pacified.
Magic - Feature.

2. Pacified.

Magic. n. Enchantment, sorcery, necro-

nancy. Magnanimous. *adj. See Noble, Lofty*. Magnificence. n. Grandeur, splendor, Magnanimous. adj. See Ivone, 2017.
Magnificence. n. Grandeur, splendor, eclat. Anto., squalor, poverty.
Main. adj. Principal, leading, chief.
Anto., subordinate, secondary.
Majority. n. 1. Manhood, full age.
Greater number. Anto., minority.
Malefactor. n. Culprit, criminal, felon, convict.

convict.

Malice. n. Spite, rancor, hate, venom, malignity.

Anto., love, benevolence, benig-

Mammoth. adj. See Large.

Manny. adj. Manful, brave, stout, strong, bold, noble, heroic. Anto., effeminate.

Manifest. adj. Clear, apparent, patient, obvious, plain, glaring. Anto., hidden, obscure, occult.

Manners. n. Breeding, behavior, demisber

scure, occult.

Manners.

n. Breeding, behavior, deportment, habits, morals. Anto., misbehavior, vulgarism.

Marry. v. Espouse, wed, take for husband or wife. Anto., divorce.

Mask. v. Disguise, shroud, screen, veil, hide, clask. Anto., display.

Matchless. adj. Excellent, inimitable, univaled perchasing comparable. Anto. com-

rivaled, peerless, incomparable. Anto., com-mon, ordinary.

Matrimony. n. Wedlock, marriage, nuptial state. Anto., spinsterhood, bachelorhood.

Mean. v. 1. Purpose, intend, design. 2.

Mean. v. 1. Purpose, intend, design. 2. Denote, imply, signify.

Mean. adj. 1. Average, middle, medium.
2. Miserly, stringy, base, surly, grumbling, poor, petty, wretched. Anto., 1. Extreme. 2. Noble, lofty.

Noble, lofty.

Meek. adj. Modest, humble, mild, gentle, submissive. Anto., bold.

Meekness. n. Modesty, humility, gentleness, mildness, submissiveness. Anto., boldness, hardihood.

Melancholy. n. Depression, gloom, sadness, dejection, despondency. Anto., joy, buoyancy.

buoyancy.

Memory. n. 1. Remembrance, recolection. 2. Reputation, renown, fame. Anto., forgetfulness, oblivion.

Mental. adj. Ideal, rational, intellectual, metaphysical. Anto., physical.

Mercy. n. Midness, compassion, clemency, lenity. Anto., harshness, implacability.

billiv.

Meritorious. adj. Good, worthy, deserving, excellent. Anto., unworthy.

Merry. adj. Gay, gleeful, mirthful, joyful, hilarious. Anto., sad, sorrowful.

Mighty. adj. 1. Able, strong, puissant.
2. Effective, forcible. 3. Immense, vast, stupendous. Anto., feeble, small.

Mind. 8. 1. Reason. intellect. under-

Mind. n. 1. Reason, intellect, under-standing. 2. Inclination, desire. Minority. n. 1. Nonage, infancy, pupil age, childhood. 2. Smaller number. Anto.,

majority. Misadventure. n. Misfortune, mishap, reverse, mischance. Anto., adventure. Mischief. n. 1. Trouble. 2. Detriment, harm, hurt, evil, injury. Anto., benefit, advantage, utility.

wantage, utility.

Miserable. adj. 1. Depressed, unhappy, affected, forlorn. 2. Abject, mean, valueless. Anto., happy, fucky, lofty.

Moderate. adj. 1. Mild, judicious, reasonable. 2. Frugal, sparing. Anto., 1m moderate, extravagrant.

Modern. adj. Anto., ancient, old. Late, new, novel, recent.

Modest. adj. 1. Humble, unpretending. 2. Moderate. 3. Chaste, pure. Anto., bold, lefty, immodest.

Morality. n. 1. Goodness, virtue. 2. Ethics, morals. Anto., immorality.
Morbid. adj. Unsound. sickly, unhealthy, viitated. Anto., sound, healthy.
Morning. n. Daybreak, dawn, forenoon.
Anto., evening.
Mortal. adj. Deadly, fatal. 2. Human,
Anto., immortal.
Mortal. n. Human, man. Anto., immortal.

tal.

Mundane. adj. Worldly, earthly, ter-

estrial. Auto., heavenly.

Murmur. n. 1. Whisper, muttering. 2.

complaint. Auto. 1. Shout. 2. Commen-

complaint. Anto. 1. Shout.

dation.

Muse. v. Think, contemplate, reflect,
ponder, meditate, brood.

Musle. n. Harmony, symphony, melody,
science of harmonics.

Mutual. adj. Interchanged, reciprocal,
correlative. Anto, sole, solitary.

Mystify. v. Puzzle, perplex, haffle, bewilder, pose. Anto., clear, explain.

Naked. adf. 1. Nude, bare, undressed.
2. Defenceless, unprotected. 3. Sheer, simple. Aho., clad, covered.

Natural. 1. Regular normal. 2. Native, original, characteristic. Anto., unnatural.
Near. adf. Close nigh, adjacent 2. Familiar, allied, intimate. 3. Impending, imminent. Anto., far.
Nerve. v. Brace, fortify, strengthen, invigorate. Anto., weaken.
Never. adv. Not ever. Anto., ever, always.
New. adf. Fresh, novel. 2. Modern, recent. Anto., old, ancient.
Nice. adf. 1. Precise, exact, critical. 2. Subtle, fine. 3 Delicate, dainty, delicious. Anto., 1. Careless 2 Coarse 3 Unpleasant.
Niggardly. adf. Mean, mercenary, stingy, miserly, illiberal, a varictous. Anto., generous, open.
Nimble. adf. Quick, agile, alert, sprightly. Anto., slow, lazy.
Noble. adf. 1. D'gnified, worthy, superior, exalted. 2. Grand, magn.ficent. Anto., 19 noble.
Noise. n. Sound, din, clatter, uproar,

Noise. n. Sound, din, clatter, uproar, clamor. Anto., silence.

clamor. Anto., silence.

Nominate. a Name. propose, designate.

Note. n. 1. Minute, memorandum. 2. Comment, remark. 3. Celebrity, renown. 4. Bill, promissory note.

Note. v. 1. Record. 2. Notice, observe,

Promissory note.

Note. v. 1. Record. 2. Notice, observe, heed. 3. Denote, designate.

Noted. adj. See Illustrious.
Notion. n. See Idea.
Notorious. adj. 1. Conspicuous. 2. Open, obvious, well-known. Anto., unknown.

Novel. adj. See New.
Novel. adj. Stee New.
Novel. n. Tale, story, romance, fiction.
Noxious. adj. Harmful, hurtful, deleterious, baleful, deadly. Anto., wholesome.
Number. n. 1. Numeral, figure, digit.
2. Multitude, many.
Nuptials. n. Wedding, marriage. Anto., divorce.

divorce.

Nurture. n. Discipline, training, breeding, schooling, education.

Nutriment. n. Food, diet, provision,

sustenance, nutrition, nourishment. Anto.,

noison.

Nutritious. adj. Sustaining.

Nourishing. adj. Wholesome, strengthening. Anto., noxious.

Obdurate. adj. Obstinate, stubborn, callous, unfeeling. Anto., flexible.
Object. n. End, purpose, aim, design. 2.
Mark. Anto., subject.
Oblige. 1. Please, favor, accommodate, serve. 2. Obligate. 3. Compel, coerce. Anto., disoblige.
Oblivion. n. Forgetfulness, amnesty. Anto., remembrance.
Obscure. adj. Dark, dim, vague, indistinct. 2. Humble, unknown. Anto., 1. Light, plain, clear. 2. Noted.

Obscuro. v. Cloud, darken, shade, eclipse.

Anto., clear, illuminate.
Obsequies. n. Funeral rites, exequies.
Obsolete. adj. Disused, antiquated, neglected. Anto., new, fashionable.
Obvious. adj. Plain, clear, manifest, visible, apparent. Anto., hidden.
Occasional. adj. Casual, irregular, incidental. Auto. regular.

dental. Anto., regular.

Occupation. n. 1. Calling, business, pursuit, profession. 2. Use, possession. Anto., 1. Idleness. 2. Forfeiture.

Occupy. v. Hold, possess, use. Anto.,

Occurrence. w. Adventure, incident, con-

Odor. n. Scent, perfume, fragrance.
Offend. v. Displease, annoy, vex. Anto.,

please.
Offence. n. Crime, indignity, injury, in

please.

Offence. n. Crime, indignity, injury, in sult, misdeed, transgression, trespass, outrage. Anto., favor, obligation.

Offensive. adj. Abusive, impertinent, injurious, insulting, insolent, obnoxious, opprobrious, rude, scurrilous. Anto., pleasant.

Offering. n. 1. Oblation, presentation, gift. 2. Sacrifice.

Office. n. 1. Charge, trust, duty, service. 2. Situation, berth, station.

Officious. adj. Active, busy, forward, intrusive, obtrusive. Anto., modest.

Offispring. n. Children, issue, descendants, posterity. Anto., ancestry.

Only. adj. Alone. adv. Barely, merely, simply, singly, solely.

Opaque. adj. 1. Dark, obscure. 2. Not transparent, impervious to light. Anto., transparent.

Open. a. 1. Unclosed, extended. 2. Clear, public. 3. Fair, candid, intreserved. 4. Liberal. 5. Unsettled. Anto., closed.

Opening. n. Aperture, cavity, hole, fissure.

Anto., solid.

Operation. n. Action, agency, surgical act, process.

Opinion. n. Notion, view, judgment,

ct, process.

Opinion. n. Notion, view, judgment, elief. 2. Estimate.

belief. 2. Estimate.

Opinionated. adj. Conceited, egotistical, obstinate. Anto., modest.

Opponent. n. Adversary, antagonist, enemy, foe. Anto., friend, ally.

Opposite. adj. Adverse, contrary, inimical, repugnant. Anto., alike, congenial.

Opprobrious. adj. Abusive, insulting, insolent, offensive, scurrilous. Anto., eulogistic.

Opprobrium. n. Disgrace, ignominy,

Option. n. Choice, election.
Oration. n. Address, speech, discourse,

harangue.
Ordain. v. Appoint, order, prescribe, Order. n. 1. Class, degree, fraternity, method, rank, series, succession. 2. Command, injunction, mandate, precept. Anto.,

Orderly. adj. 1. Methodical, systematic, regular, quiet. 2. n. Soldier. Anto., irregular.

Ordinary. adj. 1. Usual, common, habitual. 2. Homely, plain, ugly. 3. Inferior, vulgar. Anto., extraordinary.
Origin. n. 1. Cause, occasion. 2. Spring, beginning, source. Anto., end.
Original. adj. First, primary, primitive, pristine. Anto., copied.
Ornament. v. Adorn, embellish, beautify, decorate. Anto., spoil, wreck, destroy.
Ornate. adj. Adorned, bedecked, decorated, embellished, garnished. Anto., unadorned.

Ostensible. adj. Colorable, feasible, pro fessed, plausible, specious, apparent, de-clared, manifest. Anto., real.

clared, manifest. Anio., real.

Ostentation. n. Show, display, flourish, pomposity. Anio., plainness.

Outlive. v. See Survive.

Outrage. v. Abuse, maltreat, offend, insult, shock. Anio., honor, praise.

Outrage. n. Affront, offence, abuse, indignity, insult. Anio., favor, obligation.

Outward. adj. Extraneous, exterior, external, extrinsic, outer. Anto., inward.
Oval. adj. Egg.shaped, elliptical.
Overbearing. adj. Haughty, arrogant, lordly, imperious, domineering, dictatorial.
Anto., gentle.
Overcome. v. Conquer, subdue, surgoust, required.

Anto., gentle.

Overcome. v. Conquer, subdue, surmount, vanquish.

Anto., surrender.

Overflow. v. 1. Flow, deluge, inundate.

2. Overrun, overspread.

Oversight. n. 1. Blunder, mistake, error, inadvertency. 2. Management, supervision, control. Anto., correction.

Overthrow. v. 1. Defeat, overcome, conquer, vanquish. 2. Upset, overturn, subvert. 3. Ruin, molest. Anto., surrender, yield.

Overwhelm. v. 1. Overflow. 2. Defeat, conquer, vanquish, subdue.

Owner. n. Holder, possessor, proprietor.

Pacify. v. 1. Appease, conciliate. 2. Calm, still, compose, tranquilize, quiet, quell.

Pacity. v. 1. Appease conclinate. 2. Calm, still, compose, tranquilize, quiet, quell. Anto., excite.

Pain. n. 1. Ache, distress, suffering, pang, anguish, agony. 2. Penalty. 3. Uneasiness, sorrow, grief, wee. Anto., pleasure.

Paint. v. 1. Depict, delineate, portray, pencil, sketch. 2. Color. 3. Represent.

Pair. n. Brace, couple. Anto., single.

Pale. adj. 1. Colorless, wan, whitish, ashy, pallid. 2. Dim, sombre. Anto., florid.

Palliate. v. Cover, extenuate, gloss, varnish. Anto., accuse, charge.

Palpable. adj. Obvious, evident, manifest, plain, glaring. 2. Tangible. Anto., occult.

Palpitate. v. Pulsate, throb, flutter, go pit-a. pat. Anto., quiet.

Paltry. adj. 1. Little, small, unimportant, petty, miserable, trivial. 2. Abject, base, mean, pitiful, contemptible. Anto., worthy, great, noble.

great, noble.

great, noble.

Panegyric. n. Encomium, praise, eulogy.

Anto., condemnation.

Pang. n. See Pain.

Parasite. n. Flatterer, sycophant, han-

Pardon. n. Grace, forgiveness, remission, absolution, mercy, amnesty. Anto., implacability. Parentage. s. Birth, lineage, pedigree,

Parody. n. Burlesque, travesty, carica-

Parsimonious. adj. Close, mean, stingy, miscrly, penurious, covetous, sordid. Anto., generous.

Partial. adj. 1. Incomplete, imperfect.
2. Unfair, warped, biased, prejudiced, unjust. Anto., complete.

Part. n. 1. Piece, portion, fraction.

Element, ingredient. 3. Lot. 4. Charge, function.

Particle. n. Grain, jot, tittle, iota, bit,

atom, molecule. Anto., mass.
Particular. adj. Appropriate, circumstantial, distinct, exact, exclusive, nice, peculiar, punctual, specific. Anto., careless, in-

appropriate.

Particularly. adv. Chiefly, distinctly, especially, specifically, principally. Anto., generally.

Partisan. n. Supporter, adherent, fol-

lower, disciple, champion, votary. Anto., op-

Partly. adv. In part. Anto., wholly. Partner. n. 1. Colleague, associate, sharer, participator, partaker. 2. Member of

a firm.

Passion. n. 1. Ardor, emotion, fervor, zeal. 2. Love, affection, fondness, attachment, devotion. 3. Anger, wrath, fury. 4. Pathos. Anto., quietude, placidity, languor.

Passive. adj. Calm, patient, resigned, submissive, unresisting. Anto., rebellious.

Patent. adj. Open, plain, apparent, obvious. Anto., latent.

Pathetic. adj. Touching, affecting, moving, tender, melting, plaintive. Anto., ludicrous.

Patience. n. Resignation, endurance, fortitude, sufferance. Anto., impatience.

Patient. adj. Composed, calm, enduring, passive. n. An invalid. Anto., fretful.
Patrician. n. Nobleman, aristocrat.
Anto., plebeian.
Patronize. v. Aid, favor, support, help, befriend. Anto., abuse, condemn.
Pause. v. 1. Stop, cease, desist, delay, rest, stay. 2. Waver, hesitate. Anto., continue.

Pay. n. Compensation, reward, requital,

Pay. n. Compensation, reward, requital, wages, salary, hire.
Peaceable. adj. Calm, gentle, pacific, mild, quiet, serene, tranquil, undisturbed.
Anto., turbulent.
Peaceful. adj. 1. Still, quiet, undisturb-

mild, quiet, serene, tranquil, undisturbed. Anto., turbulent. Peaceful. adj. 1. Still, quiet, undisturbed. (alm, placid, tranquil, serene. 2. Mild, friendly. Anto., disturbed. Peculiar. adj. Particular, singular, special, characteristic, rare, exceptional. Peevish. adj. Captious, cross, fretful, irritable, petulant. Anto., patient. Penalty. n. Chastisement, fine, forfeiture, mulct, punishment. Anto., reward. Penetrating. adj. Discerning, intelligent, sagacious, acute, keen, shrewd. Anto., dull. Penitence. n. Compunction, remorse, contrition, repentance. Anto., impenitence. Penniless. adj. Poor, destitute, needy, indigent, reduced, pinched, distressed. Anto, rich, moneyed. Penurious. adj. Beggarly, miserly, niggardly, parsimonious, sparing. Anto., generous.

Penury. n. Indigence, need, poverty, want. Anio., affluence.
Perceive. v. 1. Notice, see, discover, discern. 2. Feel. 3. Understand, know.

discern. 2. Feel. 3. Understand, know. Anto., miss.

Perception. n. Conception, sensation, idea, notion, sentiment.

Peremptory. adj. Absolute, arbitrary, despotic, dogmatical, positive. Anto., vacillating.

Perfect. adj. 1. Finished, complete, elaborate. 2. Blameless, pure, holy. Anto., imperfect.

elaborate. 2. Blameless, pure, nor, imperfect.
Perfidious. adj. Faithless, treacherous.
Anto., faithful.
Perforate. v. Bore, pierce, penetrate.
Anto., plug, fill.
Perform. r. Accomplish, achieve, effect, execute, fulfil, produce. Anto., fail.
Perfume. n. Aroma, fragrance, balminess, incense. Anto., stench.
Peril. n. Venture, risk, danger, hazard, iconardy. Anto., safety.

ness, incense. Anto., stench.
Peril. n. Venture, risk, danger, hazard, jeopardy. Anto., safety.
Period. n. Circuit, date, age, epoch, era.
Perjure. v. See Forswear.
Permanent. adj. Fixed, abiding, lasting, stable, enduring, steadfast, immutable.
Anto., unstable.
Permit. v. Allow, suffer, consent, admit, tolerate, yield. Anto., refuse.
Pernicious. adj. Destructive, hurtful, mischievous. noisome. noxious. Anto.

mischievous, noisome, noxious. healthful

Perpetual. adj. Continuous, constant, incessant, unceasing, uninterrupted. Auto.,

transient.

Perplex. v. 1. Puzzle, embarrass, bewilder, confound. 2. Involve, entangle, complicate. Anto., explain.

Persevere. v. Continuc, insist, persist,
prosecute, pursue. Anto., unstable.

Perspleuity. m. Transparency, clearness, translucency. Anto., obscurity.

Persuade. v. 1. Convince. 2. Influence,
induce, lead, incite, impel. Anto., dissuade.

Persuade.

Pertinent. adj. Apposite, appropriate. Anto., improper.

Perverse. adj. Cross, crooked, forward, stubborn, untractable. Anto., yielding.

Pestilential. adj. Contagious, epidemical, infectious, mischievous. Anto., wholesome

Petition. n. Application, appeal, prayer, uit, entreaty, supplication.

Picture. n. Effigy, likeness, representa-

Plous. adj. Religious, devout, holy, saintly, godly. Anto., impious.

Pique. n. Offence, resentment, umbrage, grudge. Anto., pleasure, friendliness. Pique. v. i. Urge, spur, incite, instigate.
2. Displease, offend, irritate, nettle, exasper-

ate. Anto., please. Pitiless. adj. Unmerciful. relentless. ruthless, cruel, unfeeling, inexorable. Anto., merciful.

merciful.

Plty. n. Sympathy, compassion, fellowfeeling. Anto., cruelty.

Place. 1. n. Ground, rost, position, seat,
site, situation, space. 2. adj. Dispose, lay,
order, put, set. Anto., 2. Displace.

Placid. adj. See Peaceful.

Plague. v. Tease, vex, trouble, fret,
bother. Anto., please.

bother. Anto., please.
Pleasant. adj. 1. Agreeable, pleasing, delighful. 2. Witty, sportive, amusing. 3. Cheerful, lively, vivacious. Anto., disagree-

Alle.

Please. v. Delight, gratify, humor, satisfy. Anto., displease.

Pleasure. m. 1. Comfort, enjoyment, gratification, joy. 2. Luxury, voluptuousness. 3. Choice, will, preference. Anto., pain.

ness. 3. Choice, will, preference. Anto., pain.
Plebelan. adj. Mean, base, vulgar, ignoble. Anto., patrician.
Pledge. n. Deposit, earnest, hostage, security, pawn.
Plentiful. adj. Abundant, ample, copious, exuberant, plenteous. Anto., scarcity.
Pliable. adj. i. Limber, flexible, supple, lithe. 2. Compliant, tractable. Anto., inflexible.

ible.

Pliant. adj. Bending, flexible, pliable, lithe, limber, supple, yielding. Anto., stiff.

Plight. v. Case, condition, predicament, situation, state.

Plot. v. Scheme, concoct, project, devise,

situation, state.

Plot. v. Scheme, concoct, project, devise, brew, hatch.

Pluck. n. Resolution, courage, spirit, mettle, nerve, fortitude. Anto., cowardice.

Polished. adj. 1. Refined, accomplished, polite, cultivated, elegant. 2. Burnished. 3. Attic, classic. Anto., rough, coarse.

Polite. adj. Refined, accomplished, genteel, courteous, courtly, polished, urbane. Anto., impolite.

Politeness. n. Affability, civility, courteousness, courtesy, good manners. Anto., impolitieness.

Politic. adj. Artful, civil, cunning, prudent. Anto., impolitieness.

Pollute. n. Contaminate, corrupt, defile, infect, vitiate. Anto., purify.

Pompous. adj. Dignifed, lofty, magisterial, magnificent, stately, showy, ostentatious. Anto., modest.

Ponder. v. Consider, muse, reflect, think.

Portion. n. Division, dower, fortune.

think.

Portion. n. Division, dower, fortune, part, quantity, share. Anto., whole.

Position. n. Place, post, situation, sta-

tion. Fact, post, situation, surPositive. adj. Certain, confident, dogmatical, real. Auto., doubtful.
Possess. v. Have, hold, occupy. Auto.,
dispossess, distrain.
Posterior. adj. 1. Hind, rear, back. 2.
Following, succeeding, subsequent, ensuing.
Auto., anterior.

crastinate.

Postpone. v. Adjourn, defer, delay, pro-rastinate. Anto., expedite.
Posture. n. Action, attitude, gesture,

position.

Potent. adj. Strong, influential, cogent, powerful, mighty, puissant. Anto., weak.

Poverty. n. Indigence, need, penury, want. Anto., wealth.

Powerful. adj. Mighty, influential, potent, strong, vigorous. Anto., weak.

Practicable. adj. Feasible, possible, practical. Anto., impracticable.

Practice. n. Custom, habit, manner, use.

Praise. v. 1. Exalt, glorify. 2. Approve, applaud, commend. 3. Eulogize, extol. Anto.,

appiaua, commend. 3. Eulogize, extol. Anto., censure.

Prayer. n. Entreaty, petition, suit, request, supplication. Anto., anathema.

Precarious. adj. Doubtful, equivocal, dubious, uncertain. Anto., certain.

Precedence. n. Pre-eminence, preference, priority. Anto., subsequence.

Precedent. 1. n. Example. 2. Adj.

Precedent. 1. n. Example. 2. Adj. Former, antecedent. Anto., 2. Subsequent. Preceding. adj. Antecedent, anterior, foregoing, former, previous, prior. Anto.,

following.

Precept. n. Doctrine, law, rule, injunction, mandate, maxim, principle.

Preclous. adj. Costly, uncommon, valuable. Anto., common.

Precise. adj. 1. Accurate, correct, exact.

Preclude. v. Hinder, obviate, prevent.
Anto., assist.

Anto., assist.
Preconcerted. adj. Premeditated, predetermined, considered beforehand. Anto., unconsidered.

Precursor. n. Forerunner, harbinger, messenger. Anto., follower, disciple.
Predicament. n. 1. Condition, plight, situation. 2. Class, state.
Predict. v. Foretell, prophesy, prognos-

ticate.

Predominate. adj. Overruling, supreme, prevalent, prevailing.

Preface. n. Introduction, prelude, proem.

Anto., conclusion, peroration.

Prefer. v. Advance, choose, forward, encourage, promote. 2. Offer, present.

Preference. n. Choice, precedence,

priority.

Preferment. **. Advancement, preference, promotion. *Anio., abasement.

Prejudice. **. 1. Bias, detriment, disadvantage, hurt, injury. 2. Prepossession. *Anio., institute.

Preliminary. adj. 1. Antecedent, introductory, preparatory, previous.

ductory, preparatory, pressure step.

Prepare. v. Equip, make ready, fit, qualify. Anto., retard.

Preponderate. v. 1. Outweigh, overbalance. 2. Prevail.

Proficiency. n. Advancement, progress, improvement. Anto., deficiency.

Profit. n. Advantage, benefit, emolument, anto., loss.

Profit. n. Advantage, beneht, emolument, gain. Anto., loss.
Profitigate. adj. Sc. Abandoned.
Profuse. adj. Extravagant, lavish, prodigal. Anto., niggardly.
Progress. n. Advancement, gradation, motion, proficiency. Anto., retrogression.
Project. n. Design, plan. scheme.
Prolific. adj. Fertile, fruitful, productive. Anto., barren, sterile.
Prolix. adj. Diffuse, long, tedious. Anto., bricl. laconic.

Fronx. adj. Dilluse, long, techous. Anto., bret, laconic.
Prolong. v. Belay, extend, postpone, procrastinate, protract, retard. Anto., shorten.
Prominent. adj. Conspicuous, protuberant, eminent, projecting. Anto., unnoticeable.

able.

Promiscuous. adj. Mingled indiscriminate, common, confused. Anto., select.

Promise. n. Word, assurance, engagement, pledge.

Promote. v. Advance, encourage, forward, prefer. Anto., discourage.

Prompt. adj. 1. Early, punctual, timely.

2. Apt, ready, quick. Anto., unready, dilatory.

Pronounce. v. Affirm, articulate, declare,

speak, utter.
Proof. N. 1. Argument, 2. Demonstration, evidence, testimony.
Propagate. v. Circulate, diffuse, dis-

seminate, increase, multiply. Anto., diminish, rune.
Propensity. n. Inclination, pronences,

Propensity. N. Inclination, product, bias, tendency.

Proper. adj. 1. Fitting, appropriate, suitable, becoming, seemly, right. 2. Particular, specific, not common. Anto., wrong.

Propitiate. v. Appease, reconcile, atone, conciliate. Anto., provoke.

Propitious. adj. 1. Auspicious, favorable. 2. Kind, merciful. Anto., unfavorable. Proportion. N. Form, rate, relation, ratio, size, symmetry. Proportionate. adj. Adequate, equal, commensurate. Anto., unequal. Propose. v. Bid, intend, offer, purpose, tender.

Propuse. v. 1. Arraign, accuse. 2. Continue, pursue. Anto., exculpate, pardon. Prospect. n. Landscape, survey, view. Prospective. adj. Foresceing, forward,

Prospective. adj. Foresceing, forward, future.

Prosperity. n. Welfare, success, thrift, luck, happiness. Anto., loss, poverty.

Prosperous. adj. Flourishing, fortunate, lucky, successful.

Anto., unsuccessful.

Protect. v. Cherish, defend, foster, guard, patronice, shelter, shield. Anto., abandon.

Protract. v. Defer delay postnore.

abandon.

Protract. v. Defer, delay, postpone, prolong, retard. Anlo., contract.

Protracted. adj. Continued, extended, prolonged, drawn out. Anto., shortened.

Proud. adj. Arrogant, assuming, conceited, haughty, vain. Anto., unassuming, Proverb. n. Adage, aphorism, maxim, apothegm, by word, saw, saving.

Provide. v. Furnish, prepare, procure, supply

Provident. adj. Careful, economical, cautious, frugal, far-sighted, prudent. Anto., prodigal.

Provisions. #. Subsistence, food, victuals, viands, bread, provender.

Provision # Condition, stipulation.

Proviso. s. Condition, stipulation.
Provoke. v. 1. Irritate, anger, offend, affront, enrage, exasperate, infuriate. 2.
Awaken, arouse, excite, stimulate, inflame.

Anto., propitiate.

Proxy. n. Deputy, representative, agent, substitute. Prudence. n. Carefulness, discretion, forethought, judgment, wisdom. Anto., in-

discretion.

discretion. adj. Coy, demure, reserved, over modest. Asto., brazen, immodest. Publish. v. 1. Announce, declare, proclaim, herald, advertise. 2. Issue, emit. Asto., suppress.

Puerile. adj. Boyish, childish, juvenile. Asto., manly.

Pull. v. Drag, draw, gather, hale, haul, pluck, lug. Asto., push.

Pulsation. z. Beat, beating, throb, throbbing.

bing.
Pulverize. v. Bruise, grind, comminute,

Fulverize. v. Bruise, grind, comminute, triturate.

Punctual. adf. See Prompt.

Punish. v. Correct, discipline, chastise, castigate, whip, scourge. Anto, reward.

Pure. adf. 1. Clear, clean, unsullied, undefiled, spotless, untarnished, immaculate. 2. True, innocent, sinless. 3. Chaste, modest. 4. Unmixed, genuine. Anto., impure.

Purpose. n. Object, aim, intent, end, design.

Purpose. n. Cosci, and design.

Pursue. v. Chase, continue, follow, prosecute, persist. Anto., escape.

Puzzle. v. See Perplex.

Puzzle. n. 1. Mystery, riddle, enigma.

2. Embarrassment, perplexity, nonplus.

Quack. s. Impostor, pretender, humbug, charlatan. Asto., savant.
Quail. v. Shrink, blanch, quake, cower, tremble. Asto., hrave.
Qualified. astj. Adapted, competent, fitted. Asto., incompetent.
Qualify. v. Adapt, equip, furnish, fit, modify, prepare, temper.

Quality. n. Rank, property, distinction, ccomplishment, attribute.

Quandary. n. Puzzle, difficulty, per-

Quandary. n. Puzzle, difficulty, per-plexity, strait, nonplus, dilemma. Quarrel. n. Disagreement, wrangle, squabble, contention, dissension, strife, alter-cation, brawl. Auto., agreement. Queer. adj. Odd, singular, droll, strange, whimsical, unique, quaint. Auto., usual, or-dinary, customary.

Query. n. Inquiry, question, interrogatory. Ante., answer.
Question. n. See Suery.
Question. v. 1. Ask, enquire, examine, interrogate, catechize. 2. Doubt, dispute, controvert. Anto., reply.
Questionable. adj. Doubtful, suspicionable.

ous. Anio., authentic.
Quick. adj. 1. Brisk, active, prompt, agile. 2. Rapid, swift. 3. Clever, sharp, shrewd, acute, keen, discerning. Anio., dull,

Slow.

Quiet. adj. Still, resting, dormant, motionless, quiescent. Anto., turbulent.

Quit. v. 1. Leave, withdraw, vacate. 2.
Resign, abandon, forsake. 3. Clear, acquit, absolve.

Quiver. v. Shake, tremble, shudder, Quiver. v. Snake, tremble, shudder, shiver, quake.
Quota. w. Share, portion, allotment, contingent, proportion.
Quotation. w. Extract, excerpt, selection, citation.

Quote. v. Adduce, cite. Anto., originate.

Rabble. n. Mob, rout, herd.
Race. n. Breed, course, family, generation, lineage, progress. Anto., mongrel.
Radiance. n. Brightness, brilliancy, lus-

Radiance. n. Brightness, brilliancy, lustre, splendor, effulgence. Anto., gloom. Radical. adj. 1. Entire, complete, thorough, perfect. 2. Fundamental, original, organic. 3. Simple, primitive, underived. Anto., superficial.

Rage. n. Anger, chole-

Rage. n. Anger, choler, fury, violence.
Anto., calm.
Raise. v. Advance Advance, collect, elevate,

heighten, erect, exalt, propagate.

lower.

Rally. v. 1. Banter, deride, mock, ridicule. 2. Collect. Anto., 1. Praise. 2. Scatter.

Random. adj. Casual, chance, fortuitous. Anto., chosen, destined.

Rank. n. Class, degree, position.

Ransom. n. Free, redeem, manumit.

Ransom. n. Free, redeem, manumit. Anto., imprison.
Rapaclous. adj. Greedy, ravenous, voracious. Anto., generous.
Rapidity. n. Agility, celerity, fleetness, speed, swiftness, velocity. Anto., sloth.
Rapt. adj. Charmed, delighted, enraptured, fascinated, entranced, transported, ravished. Anto., dejected.
Rapture. n. Ecstacy, transport. Anto., dejection.

dejection. dejection.

Rare. adf. 1. Excellent, incomparable.

2. Raw. 3. Thin. 4. Scarce, singular, uncommon.

Anto., 1, 4. Common. 3. Dense.

Rash. adf. Impulsive, hasty, heedless, headlong, reckless, precipitate. Anto., cal-

Rash. adj. Impulsive, nasty, needless, headlong, reckless, precipitate. Anto., calculating.

Rate. n. Assessment, degree, proportion, price, quota, ratio, value.

Rational. 2. Sensible, wise, intelligent. 3. Reasonable. Anto., irrational.

Ravenous. adj. Greedy, rapacious, voracious. Anto., generous.

Refer. v. 1. Allude, suggest, hint, intimate. 2. Appeal. 3. Bear, bring.

Refined. adj. 1. Accomplished, cultured, polite, polished, elegant, courtly. 2. Purified. 3. Pure, chaste, classic, exquisite, Attic. Anto., coarse.

Referet. v. Consider, censure, muse, ponder, reproach, think.

Reform. v. Amend, better, correct, improve, rectify. Anto., injure, mar.

Refractory. adj. Contumacious, perverse, ungovernable, unruly. Anto., obedient.

Refrain. v. Abstain, forbear, spare.

Refrain. v. Abstain, forbear, spare.
Refresh. v. Cool, renew, invigorate,
revive. Anto., tire.
Refute. v. Disprove, oppugn. Anto.,

accept.

Regale. v. Entertain, feast, gratify, re-

Regard. n. 1. Concern, esteem, respect, liking, affection. 2. Relation, reference Consideration, heed. Anto., contempt.

Regardless. adj. Heedless, indifferent, negligent, unconcerned, unobservant. Anto., Region. #. 1. District, clime, territory.

Region. 8. 1. District, come,
2. Portion, part.
Regret. v. Complain, grieve, lament, repent. Anto., rejoice.
Regulate. v. Adjust, direct, rule, dispose, govern, plan. Anto., disorder.
Relterate. v. Repeat again, quote, re-

Reiterate. v. Repeat again, quote, recite. Anto., retract.
Rehearse. v. 1. Recapitulate. 2. Recite,

repeat.

Reject. v. Refuse, repel, decline. 2.
Discard. Anto., accept.
Rejoloe. v. Triumph, exult, glory. Anto.,

Rejoinder. s. Answer, reply, replica-

tion, response.

Relevant. adj. Apposite, fit, pertinent, proper, suitable to the purpose. Anto., ir-

relevant.

Reliance. n. Confidence, dependence, repose, trust. Anto., suspicion.

Believe. v. Aid, alleviate, assist, help, mitigate, succor. Anto., injure, despoil.

Religious. adj. Devout, holy, pious. An-

Reluctant. adj. Disinclined, unwilling, indisposed, loth, averse. Anto., willing. Remain. v. Abide, await, continue, so-

journ, stay, tarry. Anto., depart.
Remainder. n. Remnant, residue, rest.
Remains. n. Leavings, relics, manes.
Remark. n. Annotation, observation, note, comment.

Reminiscence, s. Remembrance, recol-Remiss. adj. 1. Careless, negligent, in-attentive. 2. Slow, slack, dilatory. Anto.,

Remit. v. 1. Abate, relax. 2. Absolve,

Remit. v. 1. Abate, relax. 2. Absolve, forgive, liberate, pardon. 3. Transmit. Remorse. n. Compunction, sorrow, penitence, conviction. Anto., callousness. Renegade. n. 1. Turncoat, apostate. Renew. v. Refresh, renovate, revive. Anto., wear out. Renounce. v. Abandon, abdicate, forego, quit, relinquish, resign. Anto., keep. Renovate. v. Restore, renew, revive, resuscitate.

resuscitate.

Renown. n. Celebrity, fame, reputation, distinction. Anto., infamy.

Renunciation. n. 1. Abandonment, surrender. 2. Abnegation, rejection, repu-

Bepair. v. Recover, restore, retrieve. Anto., destroy. Reparation. s. Amends, restoration,

Reparation. **. Am. nds, restoration, restitution. *Anto.*, injury.

Repartee. **. Reply, retort.

Repeal. **v. Abolish, abrogate, annul, cancel, destroy, revoke. *Anto.*, reënact.

Repel. **v. Repulse, drive back. *2. Withstand, resist, confront, oppose, check. *Anto.*, attract.

ttract.

Repetition. adj. Recital, tautology.

Replenish. v. Fill, refill, supply. Anto.,

empty.

Repose. n. Ease, quiet, rest, sleep. Anto.

disquiet.

Reprehensible. adj. Blamable, censurable, culpable, reprovable. Anto., commend-

Reproach. v. Blame, condemn, censure, reprove, upbraid. Anto., commend.
Reproof. v. Blame, censure, reprehen-Anto., praise.

Reprove. v. Chide, rebuke, reprimand.
Anto., praise.
Repugnance. n. Antipathy, aversion, dislike, hatred. Anto., liking.
Repugnant. adj. Adverse, contrary,

Repugnant. adj. Adverse, contrary, hostile, inimical, opposite, distasteful. Anto., similar, homogeneous.

Repulsion. n. Power of repelling, resistnce. Anto., attraction.

Reputation. n. Character, renown, cred-

Request. v. Ask, beg, beseech, demand, entreat, implore, solicit. Anto., grant.

Requisite. adj. Essential, expedient, necessary. Anto., unnecessary.

Requite. v. 1. Compensate, reward, reciprocate. 2. Avenge.

Research. n. Examination, enquiry, investigation, careful scrutiny.

Resemblance. n. Likeness, similarity.

Anto., unlikeness.

Anto., unlikeness.

Reservation. n. Reserve, retention.

Anto., donation.

Reside. v. Abide, inhabit. sojourn,
dwell, live. Anto., alienate.

Residence. n. Abode, domicile, dwelling.

dwell, live. Anto., alienate.

Residence. n. Abode, domicile, dwelling.

Residue. n. Remainder, remnant.

Resign. v. Abdicate, forego, give up, relinquish, renounce. Anto., retain.

Resignation. n. Acquiescence, endurance, patience, submission. Anto., rebellion, Resist. v. Confront, oppose, withstand. repel. Anto., assist, submit.

Resolute. adj. Courageous, determined, fixed, steadv. Anto., irresolute.

Resolution. n. 1. Intention, resolve. 2. Firmness, constancy, decision. Anto., 2. Irresolution, weakness, vacillation.

Resource. n. Expedient, means, resort.

Respect. n. 1. Esteem, regard, reverence, veneration. 2. Favor, good will. 3.

Reference. Anto., irreverence.

Respect. v. Honor, esteem, regard, venerate. Anto., dishonor, disgrace.

Respectful. adj. Civil, dutiful, obedient.

Anto., uncivil.

Respite. n. 1. Interval. 2. Reprieve.

Respectful. adj. Civil, dutiful, obedient. Anto., uncivil.
Respite. n. 1. Interval. 2. Reprieve, suspension, delay. Anto., continuation.
Response. n. Answer, reply, replication, rejoinder. Anto., question.
Responsible. adj. Accountable, amenable, answerable. Anto., irresponsible.
Rest. n. 1. Cessation, ease, intermission, quiet, repose, stop, pause. 2. Remainder, others. Anto., 1. Motion, unrest.
Restless. adj. Unsettled, unquiet, roving. Anto., quiet.

Restores. v. 1. Heal, cure. 2. Give up, repay, return, render, replace. Anto., 2. Keep Restoration. n. Amends, reparation, restitution. Anto., retention.

Bestrain. v. Coerce, constrain, limit, repress, restrict, curb. Anto., liberate.

Restrict. v. Bound, restrain, limit, con-

fine. Anto., free.

Result. n. Consequence, effect, event,

Resurve dissue.

Resurrection. s. Rising again.

Retain. v. Detain, hold, reserve, keep.

Anto., yield.

Retailation. s. Reprisal, repayment.

delay.

Retaliation. n. Reprisal, repayment.
Anto., pardon.
Retard. v. Hinder, obstruct, delay, check, impede. Anto., hasten.
Retire. v. Recede, retreat, secede, withdraw. Anto., come forward, approach.
Retract. v. Abjure, recall, recant, revoke. Anto., reiterate.
Retrenchment. n. Diminution, reduction, curtailment. Anto., increase.
Retrieve. v. Regain, recover. Anto., lose.
Retrogression. n. Retrogradation, going backward. Anto., progression.
Retrospect. n. Review, re-survey. Anto., forecast.

forecast.

Reveal. v. Discover, disclose, divulge, communicate, impart, publish. Anto., con-

Revenge. n. Requital, retaliation. Anto., forgiveness.
Revenue. n. Income, receipts. Anto.,

Revere. v. Honor, venerate, adore, rev-

Revere. v. Honor, venerate, adore, reverence. Anto, execute.
Reverse. v. Change, subvert, overturn, invert. Anto, establish.
Review. v. Notice, revise, survey, reconsider, inspect.
Revision. s. Review, reconsideration,

Revision. 2. Review, reconstderation, revisal.

Revive. 2. Refresh, quicken, rouse, cheer, animate. 2. Revivify.

Revoke. 2. Abolish, abrogate, annul, cancel, repeal, retract. Asso., reiterate.

Reward. n. Compensation, recompense, remuneration, requital, satisfaction. Anto.,

remuneration, requital, satisfaction. Anto., punishment.

Riches. n. Fortune, wealth, affluence, opulence. Anto., poverty.

Ridicule. n. Mockery, derision, sneer, sarcasm, raillery, satire. Anto., sympathy.

Ridiculous. adj. Absurd, preposterous, droll, ludicrous. Anto., solemn, funereal.

Right. adj. True, straight, just, proper, Anto. wrong.

nto., wrong.
Right. n. Privilege, claim, immunity. Anto

Right. n. Privilege, claim, Anto, disadvantage.

Righteous. adj. Good, honest, virtuous, upright, just, devout, religious, pious, holy, saintly. Anto., bad.

Rigid. adj. t. Strict, stern, severe, harsh, rigorous. 2. Stiff, unpliant, inflexible. Auto., pliable.

Rigorous. adj. 1. Rigid, severe, harsh, austere. 2. Precise, accurate, exact. Anto.,

austere. 2. Actions, and lax.

Ripo. adj. 1. Mature. 2. Finished, consummar. 3. Ready, fit, prepared. Anto., green, raw, immature.

Riponess. n. Maturity, perfection,

Ripeness. n. Maturity, perfection, growth. Anto., immaturity.
Rise. n. Increase, ascent, origin. Anto., subsidence.
Rite.

ubsidence.

Rite. n. Ceremony, form, observance.

Rivalry. n. Contention, emulation, cometition. Anto., friendliness.

Road. n. Course, path, way, route.

Roam. v. Ramble, range, wander, rove,

stroll.

Robust. adj. Athletic, stout, strong, brawny, stalwart, hale, mighty, powerful. Anto., weak.

Romance. n. Tale, story, novel, fiction.

Romance. N. 1 are, story, north, and Anto., history.
Room. n. Apartment, chamber, space.
Room. v. Lodge.
Rough. adj. 1. Coarse, rude, blunt, ungentie, churlish. 2. Uneven. 3. Unpolished. Anto., smooth.
Round. adj. Globular, circular. Anto.,

Round. n. 1. Circuit, tour, step. 2. Globe, orb, sphere. Anto., 2. Cube.
Roundness. n. Rotundness, rotundity,

Roundness. n. Rotundness, rotundity, circularity, sphericity.

Route. n. Road, way, course, path.

Rude. adj. See Rough.

Rudeness. n. 1. Roughness. 2. Gruffness, coarseness, incivility, churlishness. 3. Inclegance. Auto., politeness, urbanity.

Rugged. adj. 1. Uneven, irregular, rough. 2. Harsh. 3. Robust, vigorous.

Auto., smooth.

Ruinous. adj. Rangul novious des.

Anto., smooth.

Ruinous. adj. Baneful, noxious, destructive, calamitous. Anto., helpful.

Rule. n. 1. Law, government, command. 2. Maxim, method, precept. 3.

Guide, regulation. Anto., lawlessness.

Rule. v. 1. Govern, control. 2. Mark.

Anto., rebel.

Rumor. n. Talk, gossip, report, news, bruit

Rupture. n. 1. Altercation, quarrel, feud. 2. Hernia. 3. Fracture, breach. Rural. adj. Country, pastoral, rustic. Anto., urbane.
Ruse. n. Artifice, fraud, trick, wile.
Rustic. n. Clown, peasant, swain, boor, lout, bumpkin.
Rustic. adj. 1. Uncouth were.

Rustie. adj. 1. Uncouth, unpolished, awk-wark, rude. 2. Country, rural. Anto.,

Ruthless. adj. Cruel, pitiless, merciless, relentless, savage, inhuman. Anto., pitiful.

adj. Divine, devoted, holy. Sacred. adj. Divine, devoted, holy. Anto., profane.
Sad. adj. 1. Depressed, sorrowful, cheerless, disconsolate. 2. Dismal, gloomy, mournful. Anto., joyous.
Safe. adj. 1. Guarded, protected. 2. Sound, secure. 3. Reliable. Anto., dangerous. Sagacity. n. Acuteness, discernment, penetration. Anto., dulness. Sacred.

Sailor. w. Mariner, seaman. Anto., landsman. Salary. n. Hire, pay, stipend, wages. Sanction. n. 1. Countenance, support. Ratification, confirmation. Anto., rejection, prohibition.
Sane. adj. Sober, lucid, sound. Anto.,

Sane. adj. Sober, lucid, sound. Anto., crazy.

Saplent. adj. Sagacious, wise, discerning. Anto., foolish.
Sarcasm. n. Irony, ridicule, satire.
Satiate. v. 1. Cloy, glut. 2. Satisfy, gratify. Anto., hunger, starve.
Satisfaction. n. 1. Atonement. 2. Content. 3. Remuneration, reward. Anto., dissatisfaction.
Satisfy. v. Gratify, please. 2. Glut, satiate, cloy. Anto., displease.
Saving. adj. Thrifty, economical, frugal, sparing. Anto., prodigal.
Saying. n. 1. Remark, observation, statement. 2. Maxim, proverb, aphorism, adage, saw.
Scandal. n. Discredit. disgrace, infamy, reproach, detraction. Anto., praise.

Searca, n. Discredit, disgrace, intamy, reproach, detraction. Anto., praise.
Scarce. adj. Singular, rare, uncommon.
Anto., common.
Scarcity. n. Want, lack, deficiency, dearth. Anto., abundance.
Search. v. Examine, investigate, en-

quire, pursue, scrutinize, seek.
Socede. v. Recede, retire, withdraw.
Anto., return.
Seclusion. n. Loneliness, retirement,

Anto., return.
Seclusion. n. Loneliness, retirement, privacy, solitude.
Secondary. adj. Inferior, subordinate, second. Anto., primary.
Secret. adj. Clandestine, covered, hidden, concealed, latent, mysterious. Anto.,

open. Secular. adj. Temporal, worldly. Anto., religious.
Secure. v. 1. Be certain, guard, make

sure. 2. Guarantee. Anto., lose.
Sedate. adj. Calm, composed, quiet,
still, serene, unruffled. Anto., lively.
Seduce. v. Allure, attract, decoy. Anto., repel. See. v. Behold, eye, look, observe, per-

v. 1. Search for, ask for. 2. Strive, try, endeavor. Anto., lose.
Sell. v. Vend, barter, dispose of. Anto., buy. Senile. adj. Aged, old, infirm. Auto.,

sensation. n. Perception, sentiment,

feeling.
Sense. n. Feeling, judgment, import, meaning, reason.
Sensibility. n. Delicacy, feeling, sus-

ceptibility.
Sensitive. adj. 1. Impressible, easily affected. 2. Perceptive. Anto., callous.
Sentence. n. Decision, judgment, period,

fected. 2. Perceptive. Anno., canoos.
Sentence. n. Decision, judgment, period,
phrase, proposition.
Sentiment. n. Feeling, notion, opinion,
sensation. Anto., insensibility.
Sentimental. adj. Romantic. Anto.,

Separate. v. 1. Disjoin, divide, detach, disunite, isolate. 2. Cleave, sever. Anto.,

Serious. adj. 1. Weighty, momentous. 2. Sober, grave, solemn, earnest. Anto., jocose. Servile. adj. Fawning, mean, slavish.

Anto., free.

Anto., free.
Settle. v. Adjust, arrange, determine, establish regulate, fix. Anto, unsettle.
Settled. adj. Conclusive, confirmed, decisive, definitive, established. Anto, unsettle.

Sever. v. Detach, disjoin, divide, separate. Anto., join.
Several. adj. Different, distinct, diverse,

Several. aaj. Sindrein, distinct, distinct, studry, various.

Severe. adj. Austere, cruel, harsh, rigid, rigorous, rough, sharp, strict, unyielding, stern. Anto., mild.

Severity. n. 1. Austerity, rigor, sternness. 2. Keenness, causticity. 3. Violence.

Anto.. mildness.

Shake. v. Agitate, quake, quiver, shiver, shudder, totter, tremble. Anto., steady. Shallow. adj. 1. Shoall. 2. Frivolous, flimsy, trivial. 3. Superficial, ignorant. Anto.,

deep.
Shame. n. Disgrace, dishonor, ignominy,

Shame. n. Disgrace, dishonor, ignominy, reproach. Anto., honor.
Shameless. adj. Immodest, impudent, indecent, indelicate. Anto., modest.
Shape. v. Fashion, form, mould.
Shape. v. Apportion, distribute, divide, partake, participate.
Share. n. Dividend, part. Anto., whole. Sharpness. n. Acrimony, acuteness, enertration, shrewdness, sagacity. Anto, dulness.
Shelter. n. Asylum refuge retreat

penetration, shrewdness, sagacity. Anto., dulness.

Shelter. n. Asylum, refuge, retreat.
Shelter. v. Cover, defend, harbor, lodge. protect, screen. Anto., cast forth.
Shine. v. Gleam, glare, glisten, glitter. Anto., darken.
Shining. adj. 1. Brilliant, glittering, radiant, sparkling. 2. Bright, splendid, resplendent. Anto., dark, dim.
Shock. v. 1. Affright, terrify. 2. Appal, disturb, dismay. 3. Offend, disgust. Anto., encourage, inspirit.
Shocking. adj. Dreadful, disgusting, terrible. Anto., pleasant.
Short. adj. 1. Defective, scanty, wanting. 2. Brief, concise, compendious, laconic, succinct, summary. Anto., long.
Shorten. v. 1. Abridge, abbreviate, retrench. 2. Diminish. Anto., extend.
Show. n. 1. Display, parade, pomp. 2. Exhibition, representation, sight, spectacle. Show. v. Display, exhibit, parade. Anto., hide, cover.
Showy. adj. Gay, gorgeous, gaudy. fannting. earish. 2. Pomnous. ostentations.

hide, cover.

Showy. adj. Gay, gorgeous, gaudy, flaunting, garish. 2. Pompous, ostentatious, magnificent. Anto., simple, plain.

Shrewd. adj. Acute, keen, penetrating, artful, sly, sagacious. Anto., dull.

Shudder. v. Shrink, shake, quake,

Shun. v. Avoid, elude, evade, eschew.

Shun. 7. Avoid, clude, evade, eschew.
Anto., seek. adj. Diseased, ill, indisposed,
morbid, sick, unwell. Anto., healthy.
Sign. 1. Mark, note, symptom, prognostic, presage, signal. 2. Omen, token, symbol.
Signify. 2. 1. Betoken declare express.

Signify. v. 1. Betoken, declare, express, significant. adj. 1. Indicative, exp sive, betokening. 2. Momentous.

Significant. adj. 1. Indicative, expressive, betokening. 2. Momentous. Anto., common, usual.

Silence. n. Stilness, taciturnity, muteness, oblivion. Anto., sound, noise.
Silence. v. Still, stop, appease.
Silence. v. Still, stop, appease.
Silence. v. Still, stop, appease.
Silence. v. Still, noisy.
Silly. adj. Absurd, foolish, simple, stupid, weak, dull. Anto., sedate.
Similarity. n. Likeness, resemblance, similitude. Anto., unlikeness.
Simile. n. Comparison, similitude.
Simple. adj. 1. Elementary, single, not complex. 2. Open, artless, sincere. 3. Plain.
4. Silly. Anto., complex, artful.
Simplicity. n. Artlessness, plainness, singleness. 2. Folly. Anto., artfulness.
Simply. adv. 1. Merely, only, solely. 2. Artessly.

Artlessly.
Since. conj. As, because, for, insomuch

Sincere. adj. 1. Frank, honest, plain, genuine. 2. True, upright, incorrupt. Anto., false. Sinewy. adj. See Robust.

Single. adj. 1. Unmarried. 2. Alone, olitary. 3. Particular, individual. Anto.,

Single. adj. 1. chinarical solitary. 3. Particular, individual. Anto., married, double, several.

Singular. adj. 1. Odd, strange, uncommon, rare. 2. Peculiar, exceptional. Anto., customary, usual.

customary, usual.

Situation. n. 1. Case, plight, predicament, condition. 2. Locality, place, position,

Skilful. adj. Clever, skilled, knowing, intelligent, ready, adroit, quick. Anto., unskilful.

Sombre. sunless. scintillate silence.

Speaking. n. 1. Elocution, declamation, oratory. 2. Discourse, talk.

Species. n. Class, kind, sort, race.

Specific. adj. Particular, special, definite.

Anto., indefinite.

theory

Slander. v. Asperse, blacken, defame, traduce, libel. Anto., praise.
Slavery. n. Bondage, captivity, servitude, drudgery. Anto., freedom.
Slender. adj. 1. Fragile, slight. 2. Slim, thin. 3. Limited. Anto., thick.
Slight. adj. 1. Cursory, desultory, superficial. 2. Slim, weak. Anto., 1. careful. 2. solid. Slight. v. Neglect, scorn. Anto., notice, commend. Slow. adj. 1. Deliberate. 2. Heavy, dull, stupid. 3. Sluggish. Auto onich suow. adj. 1. Deliberate. 2. Heavy, dull, stupid. 3. Sluggish. Anto., quick. Small. adj. 1. Little, diminutive, stunted, tiny. 2. Minute, microscopic. 3. Narrow, illiberal. Anto., large, great. Smell. n. Fragrance, odor, perfume, scent, stench. scent, stench.

Smooth. adj. 1. Bland, mild, easy. 2.

Even, level. Asto., rough.

Smother. v. 1. Stiffe, suffocate. 2. Sup-Snarling. adj. Cynical, snappish, wasp. Sober. adj. 1. Abstemious, abstinent, temperate, moderate. 2. Grave. Anto., in temperate, moderate. 2. Grave. Anto., intemperate, gay.

Sobriety. n. 1. Abstinence, temperance.

2. Coolness, soberness, gravity. Anto., intemperance, intoxication.

Social. v. Companionable, conversable, familiar, sociable, cenvivial. Anto., unsocial.

Society. adj. 1. Company, association, fellowship, corporation. 2. The public.

Soft. adj. 1. Complant, ductile, flexible, tractable, pliant, yielding. 2. Mild, docile, gentle. Anto., hard.

Soiled. adj. Stained, spotted, tarnished, defiled, polluted. Anto., clean, pure.

Solicit. v. 1. Ask, request. 2. Beg, entreat, implore. 3. Beseech, supplicate. Anto., give. Solicitation. n. 1. Importunity, entreaty.

Invitation. Anto., offering.
Solicitude. n. Anxiety, carefulness, trouble. Anto., carelessness.
Solid. adj. Firm, hard, stable, substan-Solid. adj. Firm, hard, stable, substantial. Anto., unstable.
Solitary. adj. 1. Alone, retired, sole. 2. Desolate, deserted, remote. 3. Lonely, only. Anto., crowded.
Sombre owded. e. adj. 1. Dark, shady, dusky, 2. Sad, doleful, mournful. Anto., sonnore. adf. 1. Dark, shady, dusky, sunless. 2. Sad, doleful, mournful. Anto., gay, bright.

Soothe. v. 1. Allay, lessen, mitigate, ease. 2. Quiet, compose, pacify, appease.

Anto., irritate.

Sorrow. n. 1. Grief, affliction, trouble, sadness. 2. Regret. Anto., joy.

Sort. n. 1. Kind, species. 2. Order, rank. 3. Manner.

Sound. adf. 1. Hearty, healthy, sane. 2. Entire, perfect, unburt. Anto., ill.

Sound. n. 1. Tone, noise, report. 2. Strait. Anto., silence.

Sour. adf. Acid, acrimonious, acetose, acetous, sharp, tart. Anto., sweet.

Source. n. Cause, fountain, origin, reason, spring. on, spring.

Spacious. adj. Ample, capacious. Anto., mall.

Sparkle. v. 1. Twinkle, glitter, glisten, cintillate, corruscate. 2. Bubble, effervesce. scintilate, corruscate. J. Judoce, dis-Anto., darken. Speak. v. Articulate, converse, dis-course, pronounce, say, talk, tell, utter. Anto.,

Specious. adj. Colorable, feasible, ostens-ible, plausible, showy. Anto., real, genuine. Spectator. n. Beholder, bystander, ob-

Speculation. n. Conjecture, scheme,

Speech. n. 1. Talk. 2. Language, dialect. 3. Address, discourse, harangue, oration.

Speechless. adj. Dumb, mute, silent, Spend. v. Dissipate, exhaust, lay out, expend, squander, waste, consume. Asto., Sphere. n. Circle, globe, orb. Anto., cube.

Spill. v. Pour, shed, waste. Anto., fill, gather.

Spill. v. Pour, shed, waste. Anto., fill, gather.

Spilt. n. 1. Ardor, breath, courage, temper. 2. Ghost, soul. Anto., mortal.

Spirited. adj. Active, animated, ardent, lively, vivacious. Anto., stupid.

Spiritless. adj. 1. Dull, cold, apathetic, feeble, soulless. 2. Dejected, downcast. 3. Stupid, heavy, prosy, insipid. Anto., spirited. Spirits. n. Animation, courage, life, vivacity. Anto., dullness.

Spiritual. adj. Ecclesiastical, immaterial, incorporeal, uncarthy, heavenly. Anto., worldly, terrestrial.

Spite. n. Grudge, malice, malignity, malevolence, pique, rancor. Anto., forgiveness. Sphere. n. Circle, globe, orb. Anto., malevoience, pages, mess.

Spite. v. Anger, vex, thwart. Anto., pardon, please.

Splendid. adj. 1. Showy, sumptuous, gorgeous, magnificent, superb. 2. Beaming, radiant, glowing, effulgent, brilliant. 3. Noble, heroic. 4. Glorious, eminent. Anto., mean, dull, low.

Splendor. n. Brightness, brilliancy, lustre, magnificence, pomp, pageantry. Anto., tre, magnificence, pomp, pageantry. Specimen. n. Model, pattern, sample,

Splendor. n. Brightness, brilliancy, lustre, magnificence, pomp, pageantry. Anto., dullness, poverty.

Splenetic. adj. 1. Fretful, pecvish. 2. Gloomy, morose, sullen. Anto., amicable. Sport. n. 1. Amusement, game, pastime, play. 2. Diversion, recreation. Auto., work. Spotless. adj. 1. Blameless, faultless, stainless. 2. Unblemished, unspotted. 3. Innocent. Anto., stained.
Spread. v. 1. Circulate, disseminate, distribute, scatter. 2. Disperse, dispense. 3. Propagate, diffuse. Anto., collect.
Spring. v. 1. Emanate, flow, proceed, issue. 2. Arise, start, leap.
Sprinkle. v. Bud, germinate, shoot out. Squander. v. Expend, spend, lose, lavish, dissipate, waste. Anto., earn, husband.
Stability. n. Firmness, steadiness, finconstancy, fickleness.
Stain. v. 1. Foul, soil, sully, tarnish, blot, spot. 2. Color, tinge. Anto., clean. stancy, fickleness.

Stain. v. 1. Foul, soil, sully, tarnish, blot, spot. 2. Color, tinge. Anto., clean.

Stain. n. 1. Color, discolor. 2. Dye, tinge. 3. Flaw, speck, spot, blemish, blot.

Stale. adj. 1. Old, faded. 2. Common, trite. 3. Vapid, flat, musty, insipid. Anto., new, fresh.

Stammer. v. Falter, hesitate, statter.

Stamp. n. Print, mark, impression.

Standard. n. Criterion, rule, test.

Standard. n. Criterion, rule, test.

Standard. adj. 1. Legal, usual, approved. 2. Banner. Anto., unusual.

State. n. Condition, position, situation, predicament, plight. predicament, plight.
Station. n. Post, place, position, situ-Stay. v. 1. Prop. support. 2. Abide, continue, remain. 3. Delay, hinder, stop. 4. Support.
Steadfast. adj. Firm, constant, resolute. Anto., shaky.
Steal. v. 1. Pilfer, purloin, poach, embezzle. 2. Win, gain, allure. Anto., lose.
Stench. n. Bad smell, stink. Anto., shaky.

1. v. 1. Pilfer, purloin, poach, em-Stench. n. Bad smell, stink. Anto., lose.

Stench. n. Bad smell, stink. Anto., fragrance, perfume.

Sterling. adj. Real, genuine, true, pure.
Anto., false, counterfeit.

Sterlity. n. Barrenness, unfruitfulness, ardity. Anto., fruitfulness.

Stern. adj. Austere stationary of the sterling of the state of Stern. adj. Austere, rigid, rigorous, severe, strict. Anto., mild.
Sticking. adj. Adherent, adhesive, tenactious.

Still. n. 1. Allay, appease, assuage. 2. Still. n. 1. Allay, appease, assuage. 2. Calm, lull, quiet, silence, pacify. Anto., enrage, move, disturb.
Stimulate. v. Animate, excite, incite, arouse, kindle, fire. Anto., depress.
Stingy. a.lj. Close, mean, miserly, niggardly, penurious, sordid. Anto., generous. Stock. n. 1. Accumulation, fund, hoard, provisions, store, supply. 2. Cattle.

305 Stoic. z. Follower of Zeno. Anto., epi-Bend, condescend, submit. Stoop. Anto., straighten.
Stop. n. Cessation, intermission, rest.
Anto., continuance.
Stop. v. Check, hinder, impede. Anto., aid. Stormy. adj. 1. Gusty, squally, tempestuous, boisterous. 2. Rough, passionate. Anto., calm.

Story. n. Anecdote, incident, memoir, tale.

Stout. adj. See Strong, Robust.

Strait. adj. 1. Close, narrow. 2. Strict.

Anto, wide, loose.

Strange. Adj. Curious, eccentric, odd, singular, surprising, wonderful, foreign, unusual.

Anto, usual.

Stratagem. n. Device, artifice, ruse, dodge, trick. Anto., simplicity.

Strength. n. 1. Authority. 2. Force, might nower potency. Anto. weakness. strength. n. 1. Authority. 2. Force, might, power, potenty. Anio., weakness. Strenuously. adv. Ardently, zealously, earnestly, vigorously. Anio., weakly, feebly. Striet. adj. Accurate, exact, nice, particular, precise, rigorous, severe, stern. Anio., legist. lenient.

Stricture. n. Animadversion, censure.
contraction, criticism. Anto., commendation,
Strife. n. Contention, contest, dissension,
discord. Anto., peace.
Strong. adj. 1. Efficient, powerful, potent, mighty. 2. Athletic, stalwart, robust,
stout. 3. Forcible, cogent. 4. Tough, tenacious. Anto., feeble, weak.
Structure. n. 1. Make, construction,
texture. 2. Building, pile, edifice.
Stubborn. adj. Wilful, obstinate, mulish,
perverse, obdurate, cantankerous. Anto.,
docile. Stupid. adj. 1. Sleepy, drowsy, torpid. 2. Flat, heavy, insipid, humdrum. 3. Dull, obtuse, foolish, witless, daft. Anto., shrewd. Style. n. Manner, mode, phraseology, diction.

Style. v. Characterize, designate, denominate, entitle, name.

Subdue. v. 1. Defeat, conquer, vanquish, overwhelm. 2. Subject, control. Auto., ubmit.

Subject. adj. Exposed, liable, subserient. Anto., shielded, secured.

Subject. n. Object, matter, material.

Subject. v. Subdue, subjugate.

Sublime. adj. Elevated, exalted, grand, great, lofty, majestic, high. Anto., mean, low. base. tow, base.

Submissive. adj. Compliant, obedient, humble, yielding. Anto., rebellious.

Submission. n. 1. Compliance, obedience, meckness, humility. 2. Forbearance, endurance. Anto., revolt. ndurance. Anto., revolt.

Subordinate. n. Inferior, dependent. Anto., superior.
Suborn. v. Forswear, perjure. Anto., Subsequent. adj. 1. After, following. Rubservient. adj. 1. Inferior, subordinte. 2. Subject. Anto., superior. Subside. v. 1. Abate, sink. 2. Intermit, Subside. v. 1. Avaic, some Anto., rise.

Subsistence. n. See Sustenance.
Substantial. adj. 1. Responsible, 2.
Solid, stout, strong. Anto., unstable.
Substantiate. v. Prove, establish, cor roborate, verify. Anto., disprove.
Substitute. v. Change, exchange. Anto., rctain.
Subterfuge. n. 1. Evasion, shift. 2.

add.
Subvert. v. 1. Invert, reverse. 2. Overturn, overthrow. Anto., maintain, build.
Successful. adj. Fortunate, lucky, prosperous. Anto., unsuccessful.
Succession. n. Order, series. Anto.,

Succinct. adj. Brief, concise, terse, compact. Anio., verbose.
Succor. v. Aid, help, assist, relieve. Anio., injure, harry, mar.
Sudden. adj. Hasty, unanticipated, unexpected, unlooked-for. Anio., slow.
Suffer. v. 1. Allow, permit, tolerate. 2.
Endure, bear.
Suffocate. v. Choke, smother, stifle.
Sufficient. adj. 1. Adequate, enough.
2. Competent. Anio., want.
Suffrage. n. 1. Aid, voice. 2. Vote.
Suggest. v. Allude, hint, insinuate, intimate. Suggestion. n. 11111., tion, insinuation.
Suitable. adj. 1. Agreeable, becoming.
2. Apt, fit, expedient. Anto., unfit.
Suitor. n. 1. Lover, wooer. 2. Peti-Suggestion. n. Hint, allusion, intima-Summary. n. Abstract, compendium, digest, synopsis, epitome. Summen. v. Bid, call, cite, invite. Anto., send.
Sundry. adj. 1. Different, diverse. 2.
Several, various. Anto., single.
Superficial. adj. Flimsy, shallow, slight. Anto., thorough.
Supersede. v. 1. Supplant, displace.
2. Annul, suspend.
Supplicate. v. Ask, beg, beseech, entreat, implore, solicit. Anto., command.
Support. v. Assist, cherish, defend, endure, encourage, favor, forward, maintain, nurture, patronize, protect, prop, sustain, stay, second, uphold. Anto., destroy, injure.
Suppose. v. Consider, imagine, apprehend, presume, think, believe.
Supreme. adj. Paramount, first, principal, chief, highest, greatest. Anto., secondary. l*uto*., thorough. Supersede. ondary. Sure. adj. Certain, confident, infallible. nto., uncertain.
Surface. s. Outside, superficies. Anto., Surface. s. Outside, superficies. Anto., interior.
Surface. s. Outside, superficies. Anto., interior.
Surly. adj. Morose, touchy, cross, fretful, peevish, cynical, rude. Anto., amiable.
Surmise. v. Believe, conjecture, presume, suppose, suspect, think. Anto., coubt. Surmount. v. Conquer, overcome, rise above, subdue, vanquish. Anto., yield.
Surpass. v. Excel, exceed, outdo, outrip. Anto., falls short.
Surprise. n. Admiration, amazement, astonishment, wonder. Anto., habit, use.
Surrender. v. Cede, deliver, give up, resign, yield. Anto., take.
Surround. v. Beset, encircle, encompass, environ, enclose, invest.
Survey. n. Prospect, retrospect, review.
Suspense. n. Doubt, indetermination, hesitation. Anto., certainty.

hesitation. Anto., certainty.

Suspicion. n. Distrust, jealousy. Anto., Suspicion. n. Distrust, jealousy. Anto., trust.

Sustain. v. See Support.
Sustain. v. Living, maintenance, livelihood, subsistence, support.
Swarm. n. Crowd, throng, multitude, concourse. Anto., few.
Sweetheart. n. Admirer, beau, lover, wooer. 2. Flame, lady-love.
Sweetness. n. 1. Beauty, loveliness. 2. Agreeableness. 3. Mildness, gentleness, amiability. Anto., bitterness, sourness. Swiftness. n. 1. Celerity, rapidity, fleetness, sneed, velocity. Anto., slowness.
Swiftly. adv. Speedily, post-haste, quickly, apace. Anto., slowly.
Sycophant. n. Toady, fawner, parasite. Symbol. n. Token, sign, figure, emblem. Symbol. n. Il armony, proportion. Anto., inharmony.
Sympathy. n. 1. Pity, kindness, compassion, condolence, commiseration, fellowfeeling. 2. Harmony, affinity, correlation. 3. Agreement. Anto., apathy, mercilessness, crucity.
Symptom. n. Indication, mark, note,

cruelty.

Symptom. n. Indication, mark, note,

gn, token. Synopsis. n. See Summary. System. n. Method, order, scheme. Anto., confusion.

Systematize. Arrange, order, regulate, methodize. Anto., disarrange.

T

Table. n. 1. Board. 2. Repast, food, fare. 3. List, index, catalogue.
Tacit. adj. Implied, silent, inferred, understood. Anto., spoken, expressed.
Tacituruity. N. Reserve, reticence, closeness. Anto., loquacity.
Tact. n. Adroitness, skill, quickness, judgment. Anto., awkwardness, gaucherie.
Talent. n. Ability, capability, faculty, endowment, gift.
Talk. n. Chat. communication.

Chat, communication, confer-Talk. ". Chat, Communication, conterence, colloquy, conversation, dialogue, discourse. Anto., silence.

Talk. v. Chat, converse, discourse, speak, state, tell. Anto., silence.

Talkativeness. ". Loquacity, garrulity.

Talkativeness. n. Loquacity, garrulity.
Anto. tacitumity.
Tally. v. Accord, agree, match, comport, harmonize.
Tantalize. v. 1. Aggravate, irritate, provoke, tease, torment. 2. Taunt. Anto., please, harmonize, gladden.
Taste. n. 1. Discernment, judgment, perception. 2. Flavor, relish, savor.
Tattler. n. Gossip, prattler, babbler, gadabout. gadabout.

Taunt. v. Gossip, prattier, baddler, gadabout. v. Deride, mock, ridicule, jeer, flout. Anto., praise, commend.

Tax. n. 1. Assessment, custom, duty, toll, rate. 2. Contribution, tribute.

Teacher. n. See Schoolmaster.

Tedlous. adj. Dilatory, slow, tiresome, tardy, wearisome. Anto., prompt.

Tell. v. Acquaint, communicate, disclose, impart, inform, mention, make known, report, reveal, talk. Anto., listen.

Temperity. n. Heedlessness, rashness, precipitancy. Anto., caution.

Temper. n. Disposition, temperament. 2. Humor, mood. 3. Frame.

Temperate. adj. Abstinent, abstemious, moderate, sober. Anto., immoderate.

Tempest. n. 1. Storm, gale, squall, hurricane, tornado. 2. Tumult, disturbance. Anto., calm.

ricane, to... Atto., calm.
Tempt. v. 1. Allure, entice, induce, decoy, seduce, inveigle. 2. Incline, provoke.
3. Test, try, prove.
Temporal. adj. 1. Secular, worldly. 2.

Temporal. adj. 1. Secular, worms, ... Sublunary. Anto., spiritual, eternal.
Temporary. adj. 1. Transient, transitory. 2. Fleeting. Anto., permanent.
Tendency. n. 1. Inclination, propensity, proneness. 2. Drift, scope. 3. Aim. Anto., proneness. 2. disinclination.

disinclination.

Tender. adj. 1. Kind, compassionate, mild, lenient, sympathetic. 2. Delicate, soft, 3. Womanly, effeminate. 4. Feeble, infantile, 5. Pathetic. 6. Sensitive. Anto., tough, cal-

5. Pathetic. 6. Sensitive. Anio., tough, cul-lous, brutal.

Tenderness. n. Affection, benignity, fondness, humanity. Anio., roughness.

Tenet. n. Doctrine, dogma, opinion, position, principle.
Term. n

position, principle.

Term. n. 1. Boundary, limit. 2. Condition, stipulation. 3. Expression, word.

Terminate. v. Complete, finish, end, close. Anto., commence, begin.

Terrible. adj. Dreadful, fearful, frightful, terrific, horrible, shocking. Anto., delightful.

Territore, to rible, shocking. Anto., delightful.
Territory. n. Country, domain, land.
Terror. n. Alarm apprehension, consternation, dread, fear, fright. Anto., confidence.
Torse. adj. Compact, concise, pithy, sententious. Anto., verbose.
Test. n. Criterion, experiment, trial, experience, proof, standard.
Testify. v. Declare, prove, signify, witness, affirm.
Testimony. n. Evidence, proof.
Text. n. Verse, passage, sentence, paragraph. 2. Topic, subject, theme. 3. Bodv.
Thankful. adj. Grateful. Anto., un grateful.

Secoulation. Anto., practice.

grateful. 23. Oraterul. 23. Graterul. 23. Graterul. 24. Graterul. 24. Theory. 11. Speculation. Anto., practice, Therefore. adv. Accordingly, hence, so, then, consequently, thence, wherefore. Thick. adj. Dense, close. Anto., thin. Think. 12. Cogitate, conceive, consider, contemplate, deliberate, imagine, opine, meditate nonder summit. itate, ponder, surmise.

Thirsty. adj. 1. Dry, parched. 2. Eager, longing, craving, greedy.
Though. conj. Although, while.
Thought. n. Cogitation, conception, conceit, contemplation, deliberation, fancy, idea, imagination, meditation, notion, reflection, supposition.
Thoughtful. adj. Anxious, attentive, careful, circumspect, considerate, contemplative, deliberate, discreet, reflective, solicitous, wary. Anto., thoughtless.
Thoughtless. adj. Careless, gay, inconsiderate, foolish, hasty, indiscreet, unreflective. Anto., thoughtful.
Thrive. v. 1. Succeed, prosper. 2. Improve, flourish, grow, advance. Anto., decay.
Throng. s. Multitude, crowd, horde, host.

host

ost.
Through. prep. By, with.
Throw. v. Cast, fling, hurl, toss. Anto...

catch.
Thwart. v. 1. Balk, defeat, oppose, obstruct, frustrate. 2. Cross, traverse. Anto.,

struct, frustrate. 2. Cross, traverse. Auto., aid.

Time. n. Age, date, duration, epoch, era, period, season.

Timely. adj. Prompt, punctual, opportune, seasonable. Anto., untimely.

Timidity. n. 1. Bashfulness, coyness, diffidence, sheepishness. 2. Timorousness, cowardice, pusillanimity. Anto., audacity.

Tiny. adj. Small, little, puny, diminutive. Anto., great, large.

Tired. adj. Fatigued, harassed, jaded, wearied. Anto., buoyant, eager.

Tiresome. adj. Tedious, wearisome. Anto., interesting.

Title. n. 1. Name, appellation, designation, cognomen. 2. Right. 3. Inscription.

Toast. n. 1. Toasted bread. 2. Pledge, health. 3. Sentiment.

Token. n. Indication, mark, note, sign, symptom.

Tolerate. v. Admit, allow, suffer, permit. Anto., prohibit, decline.
Tolerance. n. Toleration, sufferance, endurance. Anto., intolerance.
Too. adv. 1. Over, more than enough.
2. Also, besides.
Torment. v. 1. Testandor

Also, besides.
 Torment. v. 1. Tease, plague, provoke, worry, harass, tantalize. 2. Distress, agonize, torture, rack. Anto., appease.
 Torture. Sec Torment.
 Tortuous. adj. Tormenting, twisting, winding. Anto., easy, straight.
 Total. adj. Complete, entire, whole, gross. Anto., part.
 Touching. adj. Tender, moving, pathetic, melting, affecting. Anto., ridiculous, prosy.

prosy.

Tough. adj. 1. Cohesive, tenacious. 2.
Hardy, strong, firm. 3. Stubborn, obdurate, refractory. Anto., tender, brittle.

Tour. n. Circuit, excursion, ramble, jaunt, round, trip.

Toy. n. Bubble, trifte, bagatelle. 2. Play.

thing, trinket, gimerack.

Trace. v. 1. Deduce, derive. 2. Sketch, Trace. n. Mark, track, vestige, footstep.
Trade. n. Avocation, business, calling,

dealing, employment, occupation, traffic.

Traduce. v. 1. Calumniate, vilify, defame, decry, degrade, depreciate, detract, disparage. 2. Censure, condemn. Anto.,

culogize.

Tranquility. n. Calmness, quiet, repose, peace, placidity, sereneity. Anto., turmoil, tumult.

Transact. v. Conduct, negotiace, man-

age. Transcend. v. Pass, excel, exceed, surpass, out-do. Transient. v. Fleeting, short, moment-

arv. Anto., permanent.

Transparent. adj. Clear, pellucid, pervious, translucent, transpicuous. Anto., opaque. Anto.,

orpaque.

Transpire. v. 1. Occur, happen. 2.
come out, be disclosed. 3. Exhale, evaporate,
Transport. n. 1. Carriage, conveyance,
transportation. 2. Ecstacy, rapture. 3.
Rage. Anto., depression, melancholy.

skilful. Anto, adj. 1. Afflicted, distressed, wretched, miseranle. 2. Disastrous, hard, severe. Anto., happy. Unhealthy. adj. Diseased, sickly, infirm, invalid. Anto., healthy. Uniform. adj. 1. Regular, unvarying, alike, undeviating. 2. Consonant. Anto., irregular.

regular.
Unkind. adj. Harsh, unamiable, unfriendly, cruel. Anto., kind.
Unimportant. adj. Inconsiderable, im-

Unimportant. adj. Inconsiderable, immaterial, insignificant, trifling, petty, trivial. Anto., weighty.
Unison. n. Accordance, agreement, concord, harmony, melody. Anto., discord.
Unlawful. adj. Illegal, unlicensed, illicit. Anto., legal, lawful.
Unlearned. adj. Ignorant, illiterate, uneducated, unlettered. Anto., learned.
Unlike. adj. Different, dissimilar, distinct. Anto., similar.
Unlimited. adj. Boundless, illimitable, infinite, unbounded. Anto., limited.
Unmerciful. adj. Callous, cruel, hardhearted, mercifuss, severe. Anto., merciful.

Traveller. n. Tourist, passenger, itinerant, voyager, pigmon.
Treacherous. adj. Faithless, perfidious, insidous, false. Anto., faithful.
Treachery. n. Treason, perfidy, disloyalty, perfidiousness. Anto., loyalty, Treasonable. adj. Traitorous, treacherous. Anto., loyal.
Treat. v. Entertain, negotiate, feast.
Tremendous. adj. Dreadful, terrible, horrible, frightful, alarming, awful, appalling. Anto., small, mean.
Trepidation. n. Agitation, emotion, tremor, trembling. Anto., calm.
Treapsas. v. 1. Offend, transgress, sin.
2. Intrude, infringe, encroach.
Trials n. 1. Attempt, effort, endeavor, experiment, examination, proof, test. 2. Temptation.
Tribunal. n. 1. Court, bar, judicatory. perment, examination, proof, test. 2. Tempitation.

Tribunal. n. 1. Court, bar, judicatory.
2. Benck. n. Artifice, cheat, deception, fraud, finese, imposture, sleight, stratagem.
Trifling. adj. Futile, frivolous, inconsiderable, light, petty, unimportant. Anto., simportant.

Trim. v. 1. Lop, clip, shear. 2. Arrange, adjust. 3. Deck, decorate, adorn, garnish, ornament, embellish. Anto., 1. Increase, add. 2. Disarrange.
Trip. n. Excursion, jaunt, tour, ramble.
Triumphant. adj. Victorious, successful, conquering. Anto., subdued.
Troth. n. 1. Faith, fidelity, belief. 2. Truth. Anto., falsehood, lie.
Trouble. n. Adversity, affliction, anxiety, distress, sorrow, vexation. Anto., happiness.
Trouble. n. Disturb, grieve.
Troublesome. adj. Annoying, disturbing, harassing, importunate, irksome, perplexing, teasing. Anto., pleasant.
True. adj. Honest, plain, upright, sincere. Anto., treacherous.
Truee. n. 1. Cessation, intermission. 2. Armistice. Anto., continuance.
Trust. n. Belief, credit, confidence, faith, hope. Anto., suspicion.
Trustee. n. Agent, depositary, fiduciary.
Truth. n. Faithfulness, fidelity, honesty, veracity. Anto., falsehood.
Try. v. Attempt, endeavor, essay, test, examine.
Tug. v. Hale, haul, pluck, pull.
Tuition. n. Schooling, instruction, teaching, education. Anto., inse.
Tune. n. 1. Air, strain, melody. 2. Concord, harmony.
Turblen. adj. Roily, unsettled, thick, muddy, foul. Anto., clear.
Turblen. adj. Roily, unsettled, thick, muddy, foul. Anto., clear.
Turblen. adj. Roily, unsettled, thick, muddy, foul. Anto., clear.
Turblen. Bent, cast, gyration, meander.
Anto., disinclination.
Turn. v. Bend, circulate, contort, distort, gyrate, revolve, tvist, wind, wheel, whirl. Anto., straighten, still, quiet.
Turneoat. n. See Renegade.
Turpitude. n. Wickedness, baseness, depravity vilence. Tribunal. w. 1. Court, bar, judicatory. Anto, straighten, still, quiet.
Turncoat. n. See Renegade.
Turpitude. n. Wickedness, baseness, depravity, vileness. Anto., goodness.
Tutor. n. Instructor, governess, governess, governess. Twaddle. n. Stuff, nonsense, tattle, gossip, balderdash, moonshine. Anto., sense.
Twilight. n. Dusk. Anto., daylight.
Twine. n. Encircle, embrace, entwine, Awto. s. Encircle, embrace, entwine, Anto., untwine.
Twinge. v. Pinch, pull, twitch, tweak.
Twinge. n. Pang, grip, twitch, spasm.
Twit. v. Taunt, blame, reproach. Anto., commend. commend.

Type. **. 1. Printing character. 2. Kind, form, sort. 3. Exemplar, original, model. 4. Mark, symbol, sign, token, emblem.

Typo **. Beginner, learner, novice. Anto.,

licentiate.

Ugliness. n. Homeliness, plainness. Hideousness, frightfulness. Anto., beauty.

Unquestionable. adj. Indisputable, undeniable, certain, obvious, incontestable, indubitable, irrefragible. Anto, questionable. Unravel. v. Develop, disentangle, extricate, unfold. Anto, tangle.

Unreal. adj. Shadowy, imaginary, insubstantial, visionary, ghostly, spectral.

Unrelenting. adj. Unpitying, relentless, rigorous, inexorable, harsh, cruel, merciless. Anto., tender.

Unruly. adj. Ungovernable, mutinous, seditious, insubordinate, turbulent. Anto., obedient.

Unseen. adj. Invisible. undiscovered. Ugly. adj. 1. Plain, homely, ordinary, unsightly. 2. Horrid, hideous, shocking. Anto., pretty. Ultimate. adj. Final, last, eventual, extreme. Anto., first. Umpire. n. Judge, referee, arbitrator, arbiter. unacceptable. adj. Unwelcome, displeasing, unpalatable. Anto., acceptable. Unaccorned. adj. Undecorated, ungarnished, not embellished, not bedecked. Anto., mate.
Unbecoming. adj. Improper, unsultale, indecorous, unseemly. Anto., becoming.
Unbelief. n. Disbelief, infidelity, skepobedient.
Unseen. adj. Invisible, undiscovered, hidden. Anto., visible.
Unsettled. adj. 1. Vacillating, uncertain, unsteady, wavering, restless. 2. Turbid. 3. Undetermined. Anto., resolute.
Unspeakable. adj. Unutterable, inexpressible, ineffable.
Unskilful. adj. Ignorant, wanting art or knowledge. Anto., skilful.
Unsocial. adj. Unsociable, unkind. Anto., sociable. Unbecoming. adj. Improper, unsutation, indecorous, unseemly. Anto., becoming. Unbelief. n. Disbelief, infidelity, skepticism, incredulity, distrust. Anto., belief. Unblemished. adj. Pure, clean, spoteless, sinless, guiteless, immaculate. Anto., blemished. Unbounded. adj. Boundless, illimitable, infinite, interminable, unlimited. Anto., lim-Unceasingly. adv. Always, constantly, continually, ever, perpetually. Anto., inter-Unsociale. adj. Unsociale, unkind. Anto., sociable.
Unstable. adj. 1. Fickle, inconstant, mutable, vacillating. 2. Fluctuating.
Untimely. adj. Premature, inopportune, unscasonable. Anto., timely.
Unsuccessful. adj. Unfortunate, unlucky. Anto., successful.
Untwine. v. Untwist, unwind.
Unwearled. adj. Indefatigable, restless, fresh. Anto., tired.
Unwilling. adj. Reluctant, loath, indisposed. disinclined. Anto., willing.
Upbraid. v. Blame, censure, reprove, condemn, stigmatize, taunt.
Upright. adj. 1. Erect. 2. Honest, bold. Anto., prone. continually, ever, perpetually. Asto., intermittently.
Uncertain. adj. Doubtful, precarious, dubious, equivocal. Asto., certain.
Unchangeable. adj. limutable, unalterable. Anto., fickle.
Uncolvil. s. Impolite, ungracious, uncourteous, rude. Anto., polite.
Uncommon. adj. Choice, unfrequent, rare, scarce, singular, unique. Anto., usual.
Uncongenial. adj. 1. Unsulted, disagreeable. 2. Dissimilar. Anto., congenial.
Unconcerned. adj. Cool, unaffected, indifferent, careless, apathetic nonchalant. greeable. 2. Dissimilar. Anto., congenial. Unconcerned. adj. Cool, unaffected, indifferent, careless, apathetic nonchalant. Anto., concerned, excited, vexed. Uncover. v. 1. Discover, reveal, disclose. 2. Strip, lay bare. Anto., conceal. Undaunted. adj. Fearless, brave, bold, manful, resolute, intrepid. Anto., wask. Undeniable. adj. Evident, obvious, indisputable, incontrovertible, irrefragible. Anto., disputable, incontrovertible, irrefragible. Anto., disputable. Under. prep. Below, beneath, inferior, lower, subjacent, subject.

Understanding. z. 1. Mind, intellect, reason, sense. 2. Notion, idea, judgment, knowledge. 3. Agreement.

Undetermined. adj. Doubtful, fluctuating, hesitating, irresolute, unsteady, vacillating, wavering. Anto., resolute. Unfaithful. adj. False, treacherous, faithless, recreant, perfidious, dishonest, disvoyal. Anto., faithful.

Unfit. adj. 1. Inapt, inappropriate, unsuitable. 2. Incapable, unqualified. Anto., competent, convenient.

Unfold. v. Develop, display, open, divulge, expand, reveal, unravel. Anto., hide. Unguarded. adj. 1. Thoughtless, careless. 2. Undefended, naked, unprotected. Anto., guarded.

Ungrateful. adj. Unpleasing, thankless. Anto., tankful. condemn, stigmatize, taunt.

Upright. adj. 1. Erect. 2. Honest, bold.

Anto., prone.

Uproar. n. Commotion, hubbub, disturbance, clamor, tumult. Anto., calm.

Urbanity. n. Civility, courtesy, politeness, suavity. Anto., incivility.

Urge. v. 1. Instigate, incite, stimulate, spur. 2. Solicit, entreat. 3. Impel, push, drive. Anto., hinder.

Urgent. adj. Importunate, pressing, cogent. Anto., unimportant.

Usage. n. 1. Habit, practice, custom.

2. Treatment.

Use. v. 1. Employ. 2. Consume, exhaust, expend. 3. Exercise, practice. 4. Accustom inure. Anto., abuse.

Useful. adj. Heipful, serviceable, good, convenient, profitable. Anto., futile.

Usually. adv. Regularly, ordinarily, generally, habitually. Anto., seldom.

Utility. n. Use, service, usefulness, avail, benefit, profit. Anto., worthlessness.

Utterly. adv. Wholly, completely, fully, totally. Anto., apartly.

Uttermost. adj. 1. Utmost, greatest. 2. Extreme, farthest. Anto., nearest, next.

Unwelcome. adj. 1. Utanceptable. 2.

Displeasing. Anto., welcome. Ungrateful. adj. Unpleasing, thankless. Anto., thankful.
Unhandy. adj. 1. Inconvenient. 2. Clumsy, bungling, awkward, maladroit. Anto., skilful.

Vacant. adj. 1. Empty, unfilled, void.
2. Thoughtless. Anto., filled.
Vacancy. n. 1. Chasm. 2. Emptiness, vacuity. Anto., fulness, plethora.
Vacate. v. 1. Make empty, void, annul.
2. Leave. Anto., occupy.
Vague. adj. Indefinite, uncertain, dim, doubtful, obscure. Anto., definite.
Vain. adj. 1. Inflated, conceited, overweening, ostentatious. 2. Useless, fruitless.
Anto., modest.
Valediction. n. Taking language. Anto., modest.
Valediction. n. Taking leave, farewell. Valediction. n. Taking leave, farewell.
Anto., welcome.
Valid. adj. Sound, just, logical, sufficient, grave. Anto., invalid.
Valuable. adj. Costly, precious, worth, estimable. Anto., worthless.
Value. n. Account, appreciation, estimation, price, rate, worth.
Value. v. Appraise, assess, calculate, appreciate, compute, esteem, estimate, regard, respect. respect.

Vanity. n. Arrogance, conceit, pride, haughtiness. Anto, modesty, humility.

308 Vanquish. v. Beat, overcome, quell, conquer, subdue, confuse, defeat, subjugate.

Asto., vield.
Vapld. adf. 1. Insipid, flat, spiritless. 2.
Dull, tame, prosy. Asto., spirited.
Variable. adf. Changeable, capricious, fickle, unsteady, versatile, wavering. Anto., unchangeable.
Variance. n. Discord, strife, discussion.
Asto., unison.
Variation. n. 1. Difference, deviation, diversity. 2. Change, mutation. Anto., permanence. wanence. Variety. n. 1. Difference, diversity. 2. Multiplicity. Anto., simplicity.
Various. adj. 1. Different, several, sundry, many. 2. Diversified. Anto., simple. Veer. v. Turn, shift, change course. Vegetate. v. Spring, grow, shoot, germinate. minate winate. Vehement. adj. 1. Passionate, violent, furious. 2. Earnest, fervid. 3. Forcible, strong. Anto., gentle. Velocity. n. Speed, rapidity, swiftness, fleetness. Anto., sloth. fleetness. Anto., sloth.
Venerate. v. Honor, respect, revere, adore. Anto., despise.
Veracity. n. Candor, truthfulness, hon-Veracity. n. Candor, truthfulness, honesty, ingenuousness. Anto., mendacity. Verbal. adj. 1. Literal. 2. Unwritten, oral, spoken, parole. Anto., written. Verbose. adj. Diffuse, wordy, windy, prolix. Anto., succinct, terse, concise. Vestige. n. Mark, trace, track, footstep. Vexation. n. 1. Annoyance, trouble, torment. 2. Displeasure. Anto., pleasure. Vice. n. Wickedness, crime, sin, moral ill. Anto., virtue. Vice. n. Wickedness, crime, sin, moral ill. Anto., virtue.
Vicinity. n. 1. Neighborhood. 2. Proximity, nearness.
View. n. 1. Scene, vista, prospect. 2. Picture, sketch. 3. Sight, inspection. 4. Opinion.
Vigilant. adj. Watchful, circumspect. Anto., heedless.
Vigorous. adj. 1. Strong, energetic. 2.
Healthy, sound. 3. Racy, pointed. Anto., Healthy, sound. 3. Racy, pointeu. 2000, weak.
Violent. adj. 1. Fierce, hot. 2. Vehement, boisterous, furious, impetuous, turbulent 3. Sharp, intense. Anto., gentle. Vile. adj. 1. Wicked, knavish. 2. Low, basc, mean, foul. Anto., noble, lofty. Vindicate. 2. Clear, defend, protect, justify. Anto., implicate, criminate. Virtue. m. 1. Goodness, integrity, worth. 2. Power, efficacy. Anto., vice. Virtuous. adj. 1. Pure, chaste. 2. Good, righteous, exemplary. Anto., bad. Visible. adj. 1. Patent, apparent, evident, obvious. 2. Perceptible. Anto., unscen. Visionary. adj. Enthusiastic, fantastic, fanatical, imaginary. Anto., cautious, sensible.

1. Difference, diversity. 2.

fanatical, imaginary. Anto., cautious, sensible.

Visitation. n. 1. Affliction, trouble, dispensation. 2. Inspection.

Vital. adj. Necessary, essential, indispensable. Anto., unnecessary.

Vitate. v. Contaminate, pollute, defile, infect, sophisticate, taint. Anto., cleanse.

Vivid. adj. Active, bright, clear, lively, lucid, quick, sprightly, striking. Anto., dufl. Volattlity. n. Flightiness, giddiness, levity, lightness, liveliness. Anto., steadiness. Voluptuous. Anto., stoical, harsh.

Voluptuary. n. Epicure, sensualist. Anto., ascetic.

Vouch. v. 1. Attest, warrant, avouch. 2. Back, support. Anto., deny.

Vulgarity. v. Coarseness, grossness, meanness, rudeness, vileness. Anto., refinement. Wag. n. Humorist, joker, jester, wit. Anto., dullard, butt.
Wages. n., pl. Pay, salary, hire, compensation, stipend, earnings.
Wakeful. atj. Sleepless, vigilant, watchful, wary. Anto., drowsy.
Walk. n. Carriage, galt, path.
Walk. v. Perambulate.

Wander. v. 1. Stray, swerve, digress, deviate. 2. Stroll, ramble, roam. Anto, run. Want. n. 1. Need. 2. Poverty, indigence. 3. Lack, dearth, scarcity. Anto., plenty. Wares. n. Commodities, goods, merchandics.

Wariness. n. Care, caution, circumspec-tion, forethought, prudence. Anto., heed-

lessness.

Warlike. adj. 1. Hostile, inimical. 2.

Military, bellicose. Anto., peaceful.

Warm. adj. 1. Genial, pleasant, sunny.
2. Not cold. 3. Fervent. 4. Excited. Anto.,

2. Not cold. 3. Fervent. 4. Excited. Anto., cool.

Warmth. n. 1. Glow. 2. Zeal, vehemence, ardor, fervor. Anto., coolness.

Warning. n. 1. Monition, admonition.

2. Notice. 3. Caution.

Wary. adj. Vigilant, cautious, discreet, guarded. Anto., heedless.

Waste. n. 1. Loss, consumption. 2.

Refuse. 3. Pillage, ruin, destruction, devastation. Anto., replenishment, frugality.

Wasteful. adj. 1. Destructive. 2. Profuse, lavish, extravagant. Anto., frugal.

Watchful. adj. Vigilant, careful, wary, circumspect, alert. Anto., careless.

Wave. n. Ripple, undulation, swell, surge, billow, breaker.

Wave. n. Ripple, undulation, swell, surge, billow, breaker.
Waver. v. 1. Fluctuate, vacillate. 2. Flicker, wave. Anto., steadfast.
Way. n. 1. Path, route, course, road. 2. Mode, method.
Wayward. adj. Forward, perverse, obstinate, willful, headstrong, stubborn. Anto., docile.

docile.

Weak. adj. 1. Feeble, languid, weakly.

2. Frail, sickly. Anto., strong.

Weaken. v. Debilitate, unnerve, enfeeble.

2. Lower, reduce. Anto., invigorate.

Weakness. n. Debility, effeminacy. An-

weathness. n. Debnity eleminacy. Anto., strength.
Wealth. n. Abundance, fortune, affluence, riches, opulence. Anto., poverty.
Weariness. n. Exhaustion, languor, lassitude, fatigue. Anto., buoyancy, vigor.
Weary. adj. Annoy, fatigue, harass, jade, subdue, tire, vex. Anto., fresh, unwaried.

Weary. adj. Annoy, fatigue, harass, jade, subdue, tire, vex. Anto., fresh, unwearied.

Wedding. n. Bridal, espousal, marriage, nuptials. Anto., divorce.

Wedlock. n. Marriage, matrimony.
Wee. adj. Small, little, diminutive, pigmy, tiny. Anto., large.

Weight n. 1. Gravity, ponderosity. 2. Burden, load. 3. Influence, importance. Anto., lightness.

Weights. adj. Momentous, important. Anto., unimportant, light, trilling.
Welcome. adj. 1. Pleasing, acceptable, agrecable, gratifying. 2. Admitted with pleasure. Anto., unwelcome.

Welfare. n. Weal, well-being, success, prosperity. Anto., failure, poverty.

Whet. v. 1. Stimulate, quicken, excite, arouse, kindle. 2. Sharpen. Anto., dull.
Whimsteal. adj. Capricious, fantastic, fanciful. Anto., commonplace.

Whiten. v. Bleach, fade, blanch. Anto., blacken.

Whiten. v. Bleach, fade, blanch. Anto., blacken.
Whole. adf. All, sum, total. Anto., part.
Wicked. adf. 1. Bad, ill, evil, iniquitous.
2. Sinful, vicious, impious. Anto., virtuous,
Willingly. adf. Spontaneously, voluntarily, readily. Anto., unwillingly.
Wily. adf. Crafty, artful, sly, cunning, insidious, subtle, snaky. Anto., ingenuous.
Win. v. 1. Gain, get, obtain, acquire, earn, achieve. 2. Gain over. Anto., lose.
Wineing. adf. Meandering, serpentine, flexuous, sinuous. Anto., straight.
Windy. adf. Breezy, stormy, gusty, tempestuous, blustering. Anto., calm.
Wisdom. n. 1. Sagacity, sense, judgment. 2. Learning, knowledge. 3. Reasonableness. Anto., ignorance.
Wise. adf. 1. Sage, sensible, judicious.
2. Erudite. 3. Sly, subtle, knowing. Anto., ignorant.
Wit. n. Burlesque, contrivance, humor.

2. Eruance. 3. 5.7, ignorant. Wit. n. Burlesque, contrivance, humor, irony, ingenuity, stratagem. Anto., dulness. With. prep. By, through.

Withdraw. v. 1. Recant, disavow. a. Remove. 3. Disengage, wean, go back, recede, retire, retreat, retrograde, take back. Anto., 1. Endorse, come forward.
Withhold. v. 1. Retain. 2. Restrain. Anto., release.

Anto., release.
Withstand. v. Oppose, thwart, resist.
Witness. s. Deponent, evidence, testi-

mony.
Wonder. m. 1. Marvel, prodigy, miracle,
2. Surprise, amazement. 3. Curiosity. Anto.,
commonplace.
Wonderful. adj. Admirable, astonishing, curious, marvellous, strange, surprising.
Anto., usual, customary.
Wood. m. 1. Copse, grove, forest. 2.
Timber.

Woou. n.
Timber.
Word. n. Expression, promise, term.
Worker. n. 1. Performer. 2. Operative,
laborer, workman, artificer. Anto., idler.
Worship. n. Adore, honor, revere. Anto.,

Worship. A. Ando., worthless. execrate.

Worth. n. Desert, excellence, merit, price, rate, value. Anto., worthless. S. Worthless. adj. Valueless, degraded. Anto., valuable.

Worthy. adj. 1. Good, excellent, estimable, virtuous. 2. Deserving. Anto., unporthy

able, virtuous, 2. Deserving. Anto., unworthy.

Wretched. adj. 1. Poor, bad, vile, pitiful. 2. Calamitous. 3. Forforn, unhappy, miserable. Anto., happy.

Written. adj. Penned, inscribed, transcribed. Anto., verbal.

Writer. n. 1. Author. 2. Scribe, clerk, secretary, amanuensis. 3. Penman.

Wrong. v. Maltreat, injure, abuse, oppress. Anto., right.

Wrong. adj. Untrue, faulty, not fit, unsuitable, unjust. Anto., right.

Wrongly. adv. Injustice, error, injury.

Anto., right, justice.

Wrongly. adv. Erroneously.

Wrought. v. Done, performed, effected.

Wry. adj. Crooked, askew, distorted, twisted. Anto., straight.

Xeres. n. Sherry. Xiphoid. adj. Swordlike, ensiform. Xylography. n. Wood-engraving.

Yearly. adj. Annually, per annum. Yeoman. n. Farmer, freeholder, com-moner. Anto., gentleman. Yet. conj. or adv. But, however, never-theless, notwithstanding, still, hitherto, fur-ther, besides. Yield. v. Allow, cede, communicate, communicate, conform. concede. give. produce,

Yield. 7. Allow, cede, communicate, comply, conform, concede, give, produce, permit, resign, surrender. Anto., take.
Yield. n. Crop, product.
Yielding. adj. Compliant, su missive, facile, unresisting, accommodating. Anto., stubborn.
Yoke. n. 1. Link, chain, tie, bond. 2. Servitude, dependence, bondage, subjection, thraldom.

thraldom.

Yoke. v. Associate, join, link, couple, conjoin. Anto., sever.
Youth. n. 1. Lad, boy, stripling. 2.
Young men, young women. 3. Juniority, minority, juvenility, adolescence. Anto., age.

Z

Zany. adj. Clown, buffoon, harlequin, Punch, fool. Zeal. n. Earnestness, fervor, cordiality, ardor, passion. Zealot. n. Enthusiast, bigot, fanatic, visionary. Visionary.

Zealous. adj. Earnest, fervid, glowing, burning, passionate. Anto., lukewarm.

Zenith. n. Top, apex, summit, pinnacle, climax. Anto., nadir.

Zephyr. n. 1. Breeze. 2. West wind.

Anto., calm.

Zero. n. Cipher, naught, nothing.

Zest. n. Flavor, taste, savor, relish.

Zone. n. L. Girdie, belt. 2. Clime, region. visionary.

gion.





NOMS DE PLUME.

W	HE	following	list	of	assumed	names	in	English	and
	Am	HE following list of assumed names in English and American literature will be found to be the most com- prehensive ever published:							
	prehensive ever published:								

ASSUMED NAME. REAL NAME. REPRESENTATIVE WORK. A Country Parson Archbish. Whately Divinity and Logic. A Gaol Chaplain Rev. Erskine Neale Bentley's Miscellany. A. K. H. B Rev. A. K. H. Boyd { Recreations of a Country Parson.} A. L. O. E. (a lady of England) { Charlotte Tucker City of No Cross.} A Lady Mrs. Rundell Domestic Cookery. A Lady Mrs. Anna JamiesonArt Criticism. A Literary Antiquary. { F. W. Fairholt Costume in England.} A Lover of Literature { Thomas Green Diary.} A Lincolnshire Grazier { T. Hartwell Horne Bibliography.} A Manchester Manufacturer { Richard Cobden Political tracts.} A Northern Man Chas. J. Ingersoll Political History. A Student at Law. F. K. Hunt The Fourth Estate. A Travelling Bachelor { J. Fenimore Cooper Travels.} A Trinity Man Thomas Wright Alma Mater, 1827. A. N. Farmer Rev. Isaac Wilkins Political tracts. A Young American A. Slidel Mackenzie Year in Spain. Abimelech Coody Julian C. Verplanck Political tracts. Acheta Domestica Miss L. M. Budgen Episodes of Insect Life. Acton Bell Anne Bronte Agnes Gray. Admonish Crime { Rev. James Cook Richmond } Poems.
A Gaol ChaplainRev. Erskine NealeBentley's Miscellany. A. K. H. BRev. A. K. H. Boyd { Recreations of a Country Parson.} A. L. O. E. (a lady of England) } Charlotte TuckerCity of No Cross. A LadyMrs. RundellDomestic Cookery. A LadyMrs. Anna Jamieson. Art Criticism. A Literary Anti quary. } F. W. FairholtCostume in England. A Lover of Literature A Lincolnshire Grazier } A Manchester Anti Grazier } T. Hartwell HorneBibliography. A Manchester And CobdenPolitical tracts. A Northern ManChas. J. IngersollPolitical History. A Student at Law. F. K. HuntThe Fourth Estate. A Travelling J. Fenimore CooperTravels. A Trinity ManThomas WrightAlma Mater, 1827. A. N. FarmerRev. Isaac WilkinsPolitical tracts. A Young American. A. Slidel Mackenzie Year in Spain. Abimelech CoodyJulian C. VerplanckPolitical tracts. A Country Parson.
A. L. O. E. (a lady of England) A Lady
A Lady
A LadyMrs. Anna Jamieson. Art Criticism. A Literary Anti quary. F. W. FairholtCostume in England. A Lover of Literature A Lincolnshire Grazier A Manchester Manufacturer A Northern ManChas. J. IngersollPolitical tracts. A Student at Law. F. K. HuntThe Fourth Estate. A Travelling Bachelor A Trinity ManThomas WrightAlma Mater, 1827. A. N. FarmerRev. Isaac WilkinsPolitical tracts. A Young American. A. Slidel MackenzieYear in Spain. Ablmelech CoodyJulian C. VerplanckPolitical tracts. A Cheta DomesticaMiss L. M. BudgenEpisodes of Insect Life. Acton BellAnne BronteAgnes Gray.
A Lover of Literature A Lincolnshire Grazier A Manchester Manufacturer A Northern Man Chas. J. Ingersoll Political tracts. A Student at Law. F. K. Hunt The Fourth Estate. A Travelling Bachelor A Trinity Man Thomas Wright Alma Mater, 1827. A. N. Farmer Rev. Isaac Wilkins Political tracts. A Young American. A. Slidel Mackenzie Year in Spain. Abimelech Coody Julian C. Verplanck Political tracts. Acheta Domestica Miss L. M. Budgen Episodes of Insect Life. Acton Bell Anne Bronte Agnes Gray.
A Lincolnshire Grazier A Manchester Manufacturer A Northern Man
Grazier A Manchester Manufacturer A Northern Man Chas. J. Ingersoll Political tracts. A Northern Man Chas. J. Ingersoll Political History. A Student at Law. F. K. Hunt The Fourth Estate. A Travelling Bachelor A Trinity Man Thomas Wright Alma Mater, 1827. A. N. Farmer Rev. Isaac Wilkins Political tracts. A Young American .A. Slidel Mackenzie Year in Spain. Abimelech Coody Julian C. Verplanck Political tracts. Acheta Domestica Miss L. M. Budgen Episodes of Insect Life. Acton Bell Anne Bronte Agnes Gray.
Manufacturer A Northern Man Chas. J. Ingersoll Political tracts. A Student at Law. F. K. Hunt The Fourth Estate. A Travelling Bachelor J. Fenimore Cooper Travels. A Trinity Man Thomas Wright Alma Mater, 1827. A. N. Farmer Rev. Isaac Wilkins Political tracts. A Young American. A. Slidel Mackenzie Year in Spain. Abimelech Coody Julian C. Verplanck Political tracts. Acheta Domestica Miss L. M. Budgen Episodes of Insect Life. Acton Bell Anne Bronte Agnes Gray.
A Student at Law. F. K. Hunt
Bachelor { J. Fenimore Cooper Travels. A Trinity Man Thomas Wright Alma Mater, 1827. A. N. Farmer Rev. Isaac Wilkins Political tracts. A Young American. A. Slidel Mackenzie Year in Spain. Abimelech Coody Julian C. Verplanck Political tracts. Acheta Domestica Miss L. M. Budgen Episodes of Insect Life. Acton Bell Anne Bronte Agnes Gray.
A. N. Farmer
Adolph MyerM. A. GoldschmidtNovelist. AgateWhitelaw ReidJournalist.
Agricola
Alice G. Lee. Alice Bradley (Neal) Godey's Lady's Book.
Ally Sloper

ASSUMED NAME.	REAL NAME.	REPRESENTATIVE WORK.
		Salad for the Solitary.
	Miss Anna Perrier	
	James Roche	
An Old Bushman	W. Wheelwright	Naturalist.
An Old Man	Sir Francis Bond	Bubbles from the
	M. H. Baker	
	John Williams	
	Adam White	
	Rev. John Sterling	
Ariel	Stephen R. Fiske .	New York Leader.
	Charles F. Brown	
	George Colman, J.	
Arthur Sketchley	Rev. George Ross.	Mrs. Brown.
Asa Trenchard	Henry Watterson	Magazine sketches.
Ascott R. Hope	Robert Hope Monte	ieff Book About Boys.
Aug. Dunshunner	Wm. E. Avtoun	Tales, Blackwood.
		The Racing Prophet.
	. Mrs. T. D. Gage	
		Aunt Judy's Magazine.
		Spain and Spaniards.
	W. S. Gilbert	
Bailey	Fred. Douglass	Journalist.
Barclays, One of th	eMrs. H. G. Otis	Barclays of Boston.
Barnacle	A. C. Barnes	Litterateur.
		Articles in Punch.
Barry Cornwall	B. W. Proctor	The Sea and other Songs.
		nMy Married Life.
		New York Mirror.
Belle Smith	Louise Kirby Piat	t Home Journal.
	Benjamin V. Aus	stin)
Benauly	and Lyman Abb	ott, Conecut Corners.
	Den. 1ku. Ly., join	ici y
Benedict Cruiser	George Aug. Sala.	How I Tamed Mrs. C.
Berwick	lames Rednath	The John Brown Invasion.
Designed Besident	H. Labouchere	Invasion.
	Paul Lacroix	
	Edward Capern	
	Charles H. Smith.	
		New York Tribune.
		Political articles.
	Wm. E. Aytoun	
	Section of the sectio	
	Robert S. Coffin	
		Political articles.
		Sketches by Boz.
		The Heathen Chinee.
		Fraser's Magazine.
	Matthew Hale Sm	
		Blackwood's Magazine.
Cadwalader	I. C. Hotten	Life of H. M. Stanley.
Rowlands	,	

ASSUMED NAME.	REAL NAME.	REPRESENTATIVE WORK.
Cæsariensis	Rev. James W.	der Literary World.
Caller Herrin Cannibal Jack	Annie Smith Charles Beach	Tales, Family HeraldThe Way to Win.
Cantell A. Bigly Captain Rawdon	George W. Peck	Journalist.
Crawley Capt. Rock in	George F. Pardon.	The Billiard Book.
London	M. J. Whitty	Tales of Irish Life.
Carl Banson	Charles A Bristed	St. Louis SpectatorUpper Ten Thousands.
Carleton	Charles Carleton	ffin Journalist.
Caveat Emptor	Sir George Stephen	Search of a Home.
	W. Johnson Neale. Henry Jones	
Cecil	Cornelius Tongue	The Stud Farm.
	A, de Noe	
Chas Summerfield	Albert W Arringto	Southern Literary
Chas. Summernera.	. Charless Elizabeth	Messenger.
Charlotte Elizabeth	Charlotte Elizabeth	nna Tales.
Chartist Parson	Rev. Chas. Kingsle	eyPoems.
	M. C. Hart	
		Citizen of the World.
		Magazine articles.
	Mrs. Anna BoultorFrancis C. Fisher.	Could Aught Atone?
		Noctes Ambrosianæ.
		Come Back to Erin.
	Chas. C. Converse.	Sweet SingerDramatic Criticism.
Countess Dash		
Cousin Alice	(Alice Bradley (Nea	fars Sketches. I) Godey's Lady's Book.
	Catherine D. Bell	
	Charlotte Bronte	
Cuthbert Bede	Rev. E. Bradley	Verdant Green.
D. C. L	Beresford Hope	Letters on Church Matters.
D G	George Daniel	Dramatic critic.
	J. M. Bailey Daniel Owen Mado	Life in Danbury.
		Knight's Quarterly.
Delta	David M. Moir	Poems.
Dennis Jasper Murphy	Rev. C. Maturin	Novels and plays.
	Henry D. Inglis	
Dick Tinto Diedrich	Frank B. Goodrici	Court of Napoleon,
Knickerbocker	Washington Irving	gHistory of New York.
Doctor Merry	J. Wyndham	Merry Companions.
Dod Grile Don Leucadio		Friend's Delight.
Doblado) W	hite Etters from Spain.
	Elbridge G. Page.	
Graystones	Rev. Caleb S. Her	of Peace.
Dr. Vicesimus Blenkinson	,	Whitington and His Cat,
Dr. Peter Morris	J. G. Lockhart	
Underhil	Royal Tyler	Adventures of U. U.
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ASSUMED NAME. REAL NAME. REPRESENTATIVE WORK.
Druid
Dunn BrownRev. Samuel Fisk Springfield Republican.
E. B. WaverlyJ. Wilson CrokerLetters on Currency.
E. C. RevonsCharles C. ConverseSpring and Holiday. E. H. TEarl of DerbyTravels.
Eden WarwickGeorge S. JabetNotes on Noses,
Edgeworth BensonJohn ScottVisit to Paris,
Edith MayPoetry.
Edmund FalconerEdmund O'RourkeDramatist.
Edmund KirkeJames R. GilmoreTravels.
Edward BaldwinWilliam GodwinJuvenile works.
Edward HazlefootW. Sidney Walker Knight's Quarterly.
Edward HerbertJ. Hamilton Reynolds. Poetry.
Co'Brien State Butt
O'Brien)
Edward SidneyBeverly TuckerThe Partisan Leader.
Elia
Eli PerkinsM. D. LandonJournalist. Elizabeth Wetherell.Susan WarnerWide, Wide World.
Ellis BellEmily J. BronteWuthering Heights.
English Opium- Rater Thos. De QuinceyConfessions.
EphemeraHenry FitzgibbonBook of the Salmon.
Ephraim HoldingGeorge MogridgeSunday School Tales.
Espriella AlvarezRobert SoutheyLetters from England.
Estella Elizabeth Bogart New York Mirror.
Ethan SpikeMatthew F. Whittier.
Etonensis
Ettrick ShepherdJames HoggTales and Poems.
EverpointJoseph M. FieldThe Drama in Pokerville.
Ezek RichardsJohn SavageThe Press.
FalconbridgeJonathan F. KellyHumor.
Fanny Fern
Mary I S Uncher
Fanny Forrester (Emily (Chubbuck) Trippings in
Fanny Forrester Judson Authorland.
Farmer's BoyRobert BloomfieldPoetry.
Fat ContributorA. Miner GriswoldHumor.
Father ProutFrancis Mahoney
Felix Balfour Watts Phillips London Journal.
FerragusJournalist.
FeltaKate W. Hamilton,
Florence Leigh App E William / Africa Manager
Florence LeighAnn F. WilburLadies' Magazine. Florence PercyMrs. Eliza AkersPoetry.
F. G. TraffordMrs. J. H. RiddellGeorge Geith.
Francis OldysGeorge ChalmersLife of Thos. Paine.
Frank FarleighFrank E. SmedleyLouis Arundel.
Frank Forrester Henry W. Herbert Field Sports of the U. S.
Gail HamiltonMary Abigail DodgeGala Days.
GathGeo. Alf. TownsendJournalist,
GemseeG. E. M. CrawfordCricket Notes.
Genesce TravellerMatthew L. Davis
(and Inquirer.
Geoffrey CrayonWashington IrvingSketch Book. George EliotMarian C. EvansNovels.
George ForestRev. J. G. WoodNaturalist.
George SandMadame DudevantNovels.
Girard MontgomeryJohn MoultrieKnight's Quarterly.
Glance GaylordW. I. BradleyFiction.
Gleaner
Grace Greenwood \ Mrs. Sarah Jane (Clark) Lippincott History of My Pets.
Grace WhartonA. T. ThompsonQueens of Society.
Graduate of OxfordJohn RuskinModern Painters.
GraybeardJohn F. GraffLay Sermons.
Gregory GriffinGeorge Canning The Microcosm.

A DICTIONARY OF NOMS DE PLUME.

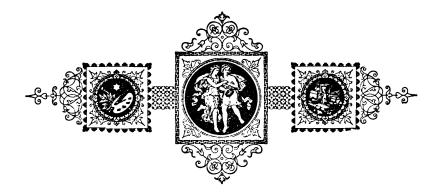
ASSUMED NAME. REAL NAME. REPRESENTATIVE WORK.	ASSUMED NAME. REAL NAME, REPRESENTATIVE WORK.
Hamilton MurrayHenry MoldenKnight's Quarterly.	John Hampden Lord (G. N. Green-ville) Nugent History.
Hans BreitmanCharles G. LelandBallads. Hans YorkelA. Oakey HallBallads.	John Jorrocks Edward Surtees Sponge's Sporting Tour.
HarkawayCharles MarshallSporting Notes.	
Harriett MyrtleMrs. L. MillerJuvenile tales.	
Harry FrancoCharles T. BriggsAdventures of Harry F.	John Paul
Harry Gringo Lieut, Harry Aug. Wise Captain Brand.	John Quod John T. IrvingKnickerbocker Magazine.
Harry Hieover Charles BrindleyPractical Horsemanship.	John Sur-re-butter John AnsteyThe Pleader's Guide.
Harry LorrequerCharles Lever Adventures of Harry Lorrequer.	John WatersHenry CaryKnickerbocker Magasine. Jon BeeJohn BadcockSlang Dictionary.
H. B Caricaturist.	John ChalkhillIzaak Walton The Complete Angler.
HeatherbellEleanor SmithTales in Good Words.	Jonathan Freke Slingsby John F. WallerSlingsby Papers.
Helen Berkley Anna Cora (Mowatt) Ritchie	Jonathan OldstyleWashington IrvingMorning Chronicle.
Helen MarMrs. D. M. F. Walker.	Joseph HutterHenry N. ColeridgeKnight's Quarterly.
Henry HolbeachW. B. RandsShoemakers' Village. Henry J. ThurstonF. T. PalgravePassionate Pilgrim.	Josh BillingsHenry W. ShawAllminax. Joshua CoffinH. W. LongfellowHistory of Newbury.
Hester Morley's Primrose.	Journeyman PrinterC. Manby Smith Autobiography of J. P.
HierophilisArchbishop McHalePolitical Letters.	J. SandNovelist.
HistoricusSir L. V. HarcourtLondon Times.	Julian Cramer { Joseph Lemuel Chester } Journalist.
Home LeeHarriet ParrNovelist.	JustitiaPhotog. Note-Book.
Hookanit Bee, Esq. S. R. WigramFlotsam and Jetsam. HonestusBenj. AustinIndependent Chronicle.	Karl RedenCharles C. Converse, Church Singer,
Hope AnstedMiss BurdettFamily Herald.	Kirwan
Horace Fitz JerseyTheo. W. A. BuckleyCollegiate Experience. Horace WelbyJohn TimbsSigns before Death.	KnickerbockerJohn S. Du SolleSunday Despatch. K. N. PepperJ. W. MorrisPoems.
HoramRev. James RidleyTales of the Genii.	KuklosJohn HarrisTales in magazines.
HorusJohn C. FisherJournalist.	LacoStephen HigginsonPolitical controversy. LactillaMrs. Anne YearsleyPoems.
Hosea BiglowJames R. LowellBiglow Papers.	Launcelot Wagstaffe, Jr. Charles MackayGouty Philosopher.
Hotspur	Wagstaffe, Jr. Charles MackayGouty Filmosopher. Laura CaxtonLizzie B. Comins,
HowadjiGeo. Wm. CurtisNile Notes. Howard GlyndonLaura C. ReddonIdyls of Battle.	Lawrence Slingsby. Geo. H. LewesBurlesques.
Hunteman Grantley Berkeley Field	LeightonRev. Jesse Appleton Piscataqua Evan-
H. Trusta Mrs. Elizabeth Stuart Phelps Tell-Tale.	Lemuel GulliverJonathan SwiftGulliver's Travels.
IantheEmma C. EmburyGuide and other Poems.	Leonard RaeJohn DouglasHal o' the Wynd.
Ignatius Loyola Robinson Samuel L. Knapp	Lewis CarrollC. L. DouglasAlice in Wonderland. L'InconnueL. Virginia FrenchPoems.
Ik. MarvelDonald G. MitchellReveries of a Bachelor.	Littlejohn Fred. G. Tomlins London Weekly Times.
Impulsia Lady Harriet G. (Lispings from Low Gushington) (Hamilton) Dufferin Latitudes.	London Antiquarian. J. C. Hotten
Gushington (Hamilton) Dufferin (Latitudes. IonE. KingmanBaltimore Sun.	Louis de MontalteBlaise PascalLetters to a Provincial.
Isaac TomkinsLord BroughamOn the Aristocracy.	Luke LimnerJohn LeightonArtist.
IsabelW. Gilmore SimmsNovelist. Jack DowningSee Major Jack Downing.	Lynn BardAlonzo LewisPoems. MacW. McConnellComic Draughtsman.
Jack Humphries Jonathan F. Kelly Humor.	McArone
Jack KetchT. K. HerveyPoetry. Jacob LarwoodL. R. SadlerLondon Parks.	Mace SloperCharles G. LelandBallads. Major Jack Downing Seba Smith
Jacob OmniumM. J. Higgins The Times.	MalakoffDr. Johnson New York Times.
January SearleG. Searle PhillipsGypsies of Dane's Dyke.	ManhattanJoseph A. ScovilleLondon Herald.
JanusDr. DollingerReligious controversy. Janus Weatherbound T. G. WainwrightLondon Magazine.	Brooks Poems.
Jasper Buddle Albert Smith Medical Times.	MariettaHarriet M. BradleyMinnie's Birthday.
Jeanie DodsMiss MackayFigaro. Jedediah / Sin Walter South Trains of Mr. I andlord	Marion Harland Mary Virginia (Hawes) Terhune Novels.
Cleishbotham) Sir Walter Scott Tales of My Dandford.	Marion Harland { Mary Virginia (Hawes) Terhune } Novels. Marion Ward { Mrs. Harriet M. Stephens } Novels.
Jeemes Pipes of Pipesville Stephen C. MassettHumor.	Stephens) Markham HowardMary Cecil HavOld Middleton's Money.
Jenny JuneMrs. Jennie C. CrolyChildren's tales.	Mark LittletonJohn P. KennedySwallow Barn.
Jeremiah BingletubJohn StylesVelvet Cushion.	Mark RochesterW. C. M. KentThe Derby Ministry. Mark TwainSamuel L. ClemensInnocents Abroad.
J. K. LBishop DoyleReligious controversy. Joaquin MillerCincinnatus H. Miller.Poems.	Married CriticJules G. JaninCriticisms.
Job SassGeorge A. Foxcroft.	Martin DoyleRev. William HickeyIrish Agriculture.
Joe Miller, JrThompson WestcottSunday Despatch. John DarbyJ. E. GarretsonEssays.	Mary ClaversMrs. C. M. KirklandA New Home. (Mrs. Mary Sargent)
John GiffordEdward FossLegal Peers.	Mary Orme Mrs. Mary Sargent Gove (Neal) Nichols Lectures to Ladies.
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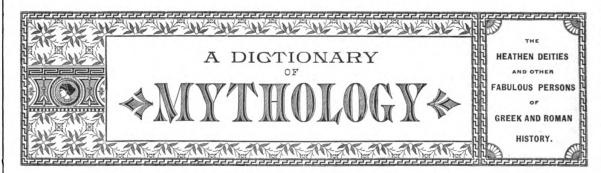
ASSUMED NAME, REAL NAME, REPRESENTATIVE WORK.
Mary PowellMiss M. A. Manning. Fiction. MassachusettensisDaniel LeonardPolitical controversy.
(Master Timothy's
Master TimothyG. W. M. Reynolds Master Timothy's Bookcase.
Matthew BrowneWilliam B. RandsPoems.
Matthew StradlingM. M. F. MahoneyGilbert Massinger.
Maurice SandMaurice DudevantTravels. Max AdelerChas, Heber ClarkComic.
MercutioWill WinterNew York Tribune,
Michael Angelo Titmarsh W. M. ThackerayParis Sketches.
Titmarsh)
Miles O'ReillySee Private Miles O'Reilly.
Minnie Myrtle Anna L. Johnson (Mrs. Joaquin Miller) Poems.
Modern Pythagorean Robert McNishBlackwood's Magnzine.
MofussiliteThomas LangToo Clever by Half.
Morgan O'DohertyWilliam MaginnBlackwood's Magazine. Morgan RattlerPercival BanksFraser's Magazine.
Mr. Pins
Mrs. Manners Cornelia H. (Bradley) Richards At Home and Abroad.
Mrs. PartingtonBenj. P. ShillaberBoston Post.
Ned BuntlineE. Z. C. JudsonKing of the Sea.
Nelsie BrookMrs. Ellen RossLittle Mother Mattie.
Nicias FoxcarFrancis JacoxJournalist.
Nilla
NimrodCharles J. ApperlyChase, Turf and Road. NovanglusJohn AdamsPolitical controversy.
O. F. Q. Philander Smith A. Douty
OccasionalJohn W. Forney The Press, Philadelphia.
Old HumphreyGeorge MogridgeEvery-day Lessons.
Old MerryEdwin HodderOld Merry's Annual. Old SailorHenry M. BarkerTough Yarns.
Old ShekarryMajor LevesonForest and Field.
Old SouthBenjamin Austin Independent Chronicle.
Oliver OldschoolJoseph DennieThe Portfolio.
Oliver OpticWilliam F. AdamsJuvenile tales. OliviaEmily Edson GriggJournalist.
OllapodWillis G. ClarkKnickerbocker Magazine.
Olphar Hamst, EsqRalph Thomas Handbook of Fictitious Names.
One from the Plough. G. Mitchell
Onuphrio MuraltoSee William Marshall, Gent. Onyx TitianSarah WoodwardApple Blossom.
Orpheus C. KerrRobert H. NewellHumor.
Quida Louise de la Rame Under Two Flags
Owen Meredith Lord (Robert E. Bulwer) Lytton Lucille.
P. FisherW. E. ChattoAngler's Souvenir.
Parson FrankFrancis JacoxJournalist. Patty LeeAlice CaryPoems.
Paul Beranger { J. A. S. Collin (Danton) de Plancy Infernal Dictionary.
Paul CreytonJohn F. TrowbridgeFiction.
Paul PindarJ. Yonge AkermanLegends of Old London,
Paul PrigginsRev. J. HewlettNovelist. Paulus SilentiariusGeorge P. PhilesThe Philobiblion.
Peasant BardJosiah D. CanningPoems.
Pennsylvania Farmer John DickinsonPolitical controversy.
PequotCharles W. MarchBoston Courier.
Peregrine PersicJames MorierHajji Baba. PerleyBenj. Perley PooreBeston Yournal.
Peter PaletteThomas OnwhynArtist.

١	ASSUMED NAME. REAL NAME. REPRESENTATIVE WORK.
1	Peter ParleySamuel G. GoodrichCabinet Library.
١	Peter Pennot Rev. W. F. Round.
ı	Peter PeppercornThomas L. PeacockPoems. Peter PindarDr. John WolcotSatirist.
١	Peter PlymleyRev. Sydney SmithLetters.
١	Peter PorcupineWilliam CobbettP. P.'s Gazette.
I	Peter PrigginsRev. H. HewlettCollege Scout. Peter QuinceIsaac StoryThe Parnassian Shop.
١	Peter SchlemihlGeorge WoodP. S. in America,
١	Peter Scriber Charles Aug. Davis Commercial Advertiser.
1	Peter WilkinsRobert PattockFiction. Petroleum V. Nasby. David R. Locke Toledo Blade.
١	PhilanthroposWilliam LadFriend of Peace,
1	Philip QuilibetGeorge E. Pond.
١	Philip WhartonJohn C. ThomsonWits and Beaux.
-	Philopatris Varvi-
١	Phiz
1	Poor RichardBenjamin FranklinP. R.'s Almanac.
١	Porte CrayonDavid H. Strother
1	
1	O'Reilly Charles G. Halpine New York Herald.
1	Prizeman Newdigate, W. H. Mallock Every Man His Own Poet Publicola
١	Publicola
1	Publicola David E. Williams, London Weekly Despatch.
١	Puck
١	QChas. G. RosenbergYou've Heard of 'Em. QEdmund H. YatesEvening Star.
1	Q. Q Miss Jane Taylor Youth's Magazine,
1	Q. K. Philander Doesticks M. M. ThompsonPlu-ri-bus-tah.
1	QuallonS. H. BradburyPoems.
١	QuizRev. Ed. CaswellSketches.
ı	RadicalLeslie Grove JonesLondon Times.
١	Rawdon CrawleySee Capt. Rawdon Crawley. Red SpinnerW. SeniorWaterside Sketches.
١	Reuben PercySee Sholto and R. Percy.
١	Richard BriskJ. DuncanRailway Book.
1	Richard HaywardFred. S. CozzensKnickerbocker Magazine. Robinson CrusoeDaniel DefoeAdventures of R. C.
ı	Rob RoyJohn MacgregorCanoe Voyages.
1	Roving Englishman. Grenville MurraySketches.
١	Ruhama
١	Rustic BardRobert DinsmoorPoems,
1	RutledgeMrs. Miriam (Coles) Harris.
١	S. G. O
1	Sam SlickThos. C. HaliburtonThe Clockmaker.
	Sarah TylerMiss Keddie Papers for Thoughtful
	Saville RomeClement ScottLondon Telegraph,
١	ScrutatorJ. HorlockCountry Gentleman.
١	See De KayCharles D. Kirk.
1	Seeley RegesterMrs. O. J. Victor.
	Sexton of the Old- school Lucius M. Sargent Dealings with the
1	ShamrockR. D. WilliamsPoems.
1	Shielar Dora Mr. (Succe Propries) W. Shielar Dora
-	Shirley DareMrs. (Susan Dunning) Waters. Sholto and (Thomas Byerley and)
1	Reuben Percy Joseph C. Robertson Percy Anecdotes.
1	Sholto Philadelphia Press.
-	SigmaLucius M. SargentBoston Transcript. SilverpenEliza MeteyardLilian's Golden Hours.
١	Sir Cosmo GordonSir S. E. BrydgesLetters on Byron.
	Sir Galahad

ASSUMED NAME. REAL NAME. REPRESENTATIVE WORK
Solitaire John S. Robb
Sophie MayMiss R. S. ClarkSwamp Dr.'s Adventures
SparrowgrassF. S. Cozzens Sparrowgrass Papers.
SperanzaLady WildePoems.
Spy in Washington Matthew L. Davis N. Y. Courier.
SquibobSquibob Papers.
StampedeJonathan F. KellyHumor,
StellaMrs. E. A. B. LewisRecords of the Heart.
StonehengeJ. Henry WalshThe Dog.
StrawsJoseph M. Field New Orleans Picayune.
Straws, JrMiss Kate Field Springfield Republican.
Sut LovengoodGeorge W. HarrisHumor.
Sydney YendysSydney DobellPoetry.
TaborNovelist.
Tag, Rag and Bobtail. Isaac D'IsraeliFlim-Flams.
TalviTales.
Tamoc CaspipiniJacob DucheLetters of T. C.
TeufelsdræckhThomas CarlyleSartor Resartus.
Teutha William JerdanLiterary Gazette.
The Black DwarfThomas J. WoolerPolitics.
The Celt Poems.
The Druid
The GovernorHenry MorfordNew York Atlas.
The O'Hara Family John and M. Banim Novels.
The TravellerIsaac StaryColumbian Sentinel.
Theodore de la Guarde Nathaniel WardSimple Cobbler.
Theodore TaylorJ. C. HottenLife of Thackeray.
Thinks I to MyselfRev. Dr. Ed. NaresNovels.
Thomas LittleThomas MooreLittle's Poems.
Thomas IngoldsbyRev. R. H. BarhamIngoldsby Legends.
Thomas Rowley Thomas Chatterton Poems.
Timon FieldmouseWilliam B. Rands Essays.
Timothy TicklerRobert SymeIn Noctes Ambrosianæ.

ASSUMED NAME.	REAL NAME.	REPRESENTATIVE WORK.
Timothy Titcomb	.J. G. Holland	Letters to the Young.
Tom Brown	.Thomas Hughes	Tom Brown at Rugby.
Tom Folio		5.7
		Gentleman's Magazine.
	.John A. Cockerill	
	.Thomas B. Macaula	
	A. and C. Tennyson.	
	.Parker Gilmore	
	.Mary A. Ford	
	•	Notable Shipwrecks.
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		s.American Histories.
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, ,	rC. M. Dickinson	
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Wizard	.John Corlett	The Times.
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BEO'NA. A goddess of voyages, etc. Acha'tes. The trusty friend of Æneas. Ach'eron. The son of Sol and Terra, changed by Jupiter into a river of hell. Used also for hell itself.

Achilles. A Greek who signalized himself in the war against Troy. Having been dipped by his mother in the river Styx, he was invulner-able in every part except his right heel, but was at length killed by Paris with an arrow.

A'cis. A Sicilian shepherd, killed by Polyphemus because he rivaled the latter in the affections of Galatea.

Actæ'on. A famous hunter, who, having sur-prised Diana as she was bathing, was turned by her into a stag, and killed by his own dogs.

Ado'nis. A beautiful youth beloved by Venus and Proserpine. He was killed by a wild boar. When wounded, Venus sprinkled nectar into his blood, from which flowers sprang up.

Ege'us. A king of Athens, giving name to the Agean sea by drowning himself in it.

E'gis. A shield given by Jupiter to Minerva.

Also the name of a Gorgon whom Pallas slew.

Æne'as. A Trojan prince, son of Anchises and Venus; the hero of Virgil's poem the Æneid. Æ'olus. The god of the winds.

Æo'us. One of the four horses of the sun.

Escula'pius. The god of medicine, and the son of Apollo. Killed by Jupiter with a thunderbolt for having restored Hippolytus to like.

Æ'thon. One of the four horses of the sun. Agamem'non. King of Mycenæ and Argos, brother to Menelaus, and chosen captain-general of the Greeks at the siege of Troy.

Aganip'pe. A fountain at the foot of Mount Helicon, daughter of the river Permessus.

Agla'ia. One of the three Graces.

A'jax. Next to Achilles, the bravest of all the Greeks in the Trojan war.

Al'bion. The son of Neptune; went into Britain and established a kingdom.

Alces'te, or Alcestis. The daughter of Pelias and wife of Admetus, brought back from hell by Hercules.

Alci'des. A title of Hercules.

Alec'to. One of the three Furies.

Alo'a. A festival of Bacchus and Ceres.

Am'mon. A title of Jupiter.

Amphi'on. A famous musician, the son of Ju-piter and Antiope, who built the city of Thebes by the music of his harp. He and his brother Zethus are said to have invented music.

Amphitri'te. Goddess of the sea, and wife of

Androm'ache. Wife of Hector.

Androm'eda. The daughter of Cepheus and Cassiopeia, who, contesting with Juno and the Nereides for the prize of beauty, was bound to a rock by them and exposed to a sea monster, but was rescued and married by Perseus.

Ange'rona. The goddess of silence. Antæ'us. The giant son of Neptune and Terra; squeezed to death by Hercules.

Antever'ta. Goddess of women in labor.

Antigone. The daughter of Œdipus and Jocasta, famous for her filial piety.

An'ubis. An Egyptian god with a dog's head. A'pis. Son of Jupiter and Niobe; called also Serapis and Osiris. Taught the Egyptians to sow corn and plant vines, and worshipped by them in the form of an ox.

Apollo. The son of Jupiter and Latona, and the god of music, poetry, eloquence, medicine and the fine arts.

Arach'ne. A Lydian princess, turned into a spider for contending with Minerva at spinning.

Arethu'sa. One of Diana's nymphs, who was changed into a fountain.

Argus. The son of Aristor; said to have had a hundred eyes; but being killed by Mercury when appointed by Juno to guard Io, she put his eyes on the tail of a peacock. Also an architect, who built the ship Argo.

tect, who built the ship Argo.

Ariad'ne. The daughter of Minos, who, from love to Theseus, gave him a clew of thread, to guide him out of the Cretan labyrinth; being afterward deserted by him, she was married to Bacchus, and made his priestess.

Arion. A lyric poet of Methymna, who, in his voyage to Italy, saved his life from the cruelty of the mariners by means of dolphins, which the sweetness of his music brought together.

which th together.

Aristæ'us. A son of Apollo and Cyrene.

Astræ'a. The goddess of justice; charged into the constellation Virgo.

Atalan'ta. A princess of Scyros, who consented to marry that one of her suitors who should outrun her, Hippomenes being the successful com-

Atlas. One of the Titans, and king of Mauretania; said to have supported the world on his shoulders; he was turned into a mountain by Perseus.

Auro'ra. The goddess of morning.

Autum'nus. The god of fruits. Bacchan'tes. Priests of Bacchus.

Bac'chus. The son of Jupiter and Semele, and the god of wine.

Bap'ta. The goddess of shame.

Beller'ophon. The son of Glaucus, king of Ephyra. He underwent numerous hardships for refusing an intimacy with Sthenobea, wife of Pretus, the king of Argos. With the aid of the horse Pegasus he destroyed the Chimera.

Bello'na. Goddess of war; sister of Mars. Bereni'ce. A Grecian lady; the only person of her sex permitted to see the Olympic games.

Boli'na. A nymph rendered immortal for her modesty and resistance to Apollo.

Bo'reas. The son of Astræus and Aurora; the name of the north wind.

Bria'reus. A giant who warred against heaven, and was feigned to have had fifty heads and one hundred arms.

Busi'ris. The son of Neptune; a tyrant of Egypt, and a monstrous giant, who fed his horses with human flesh; was killed by Hercules.

Byblis. The daughter of Miletus; she wept herself into a fountain through love of her brother Caunus.

Ca'cus. A son of Vulcan and a most notorious robber; slain by Hercules for stealing his oxen.

Cad'mus. The son of Agenor, king of Phænicia; founder of Thebes, and the reputed inventor of sixteen letters of the Greek alphabet.

Cadu'ceus. Mercury's golden rod or wand.

Calli'ope. One of the Muses, presiding over eloquence and epic poetry.

Calyp'so. One of the Oceanides, who reigned in the island Ogygia, and entertained and became enamored of Ulysses.

Camæ'na, or Carna. Goddess of infants.

Cassan'dra. A daughter of Priam and Hecuba, endowed with the gift of prophecy by Apollo.

Castal'ides. The Muses, so called from the fountain Castalius, at the foot of Parnassus.

Cas'tor. A son of Jupiter and Leda. He and his twin brother Pollux shared immortality alter-nately, and were formed into the constellation Gemini.

Ce'crops. The first king of Athens, who instituted marriage, altars and sacrifices.

Cen'taurs. Children of Ixion, half men and half horses, inhabiting Thessaly, and vanquished by Theseus.

Cer'berus. The three-headed dog of Pluto, guarding the gates of hell.

Ce'res. The daughter of Saturn and Cybele, and goddess of agriculture.

Cha'ron. The son of Erebus and Nox, and ferryman of hell, who conducted the souls of the dead over the rivers Styx and Acheron.

Charyb'dis. A ravenous woman, turned by Jupiter into a very dangerous gulf or whirlpool on the coast of Sicily.

Chi'mera

Chi'ron. A Centaur, who was preceptor to Achilles, taught Æsculapius physic, and Her-cules astronomy, and who became the constella-tion Sagittarius.

Chry'seis. The daughter of Chryses, priest of Apollo, famed for beauty and for her skill in Apollo, fame embroidery.

Cir'ce. A noted enchantress.

Cli'o. One of the Muses, presiding over history.

Clo'tho. One of the three Fates. Clytemnes'tra. The faithless wife of Agamemnon, killed by her son Orestes.

Co'mus. The god of merriment.

Cro'ous. A young man enamored of the nymph Smilax, and changed into a flower.

Croe'sus. King of Lydia; the richest man of

Cu'pid. Son of Mars and Venus; the god of

Cyb'ele. The daughter of Cœlus and Terra; wife of Saturn, and mother of the gods.

Oy'clops. Vulcan's workmen, giants who had only one eye, in the middle of their foreheads; slain by Apollo in a pique against Jupiter.

Deed'alus. A most ingenious artificer of Athens, who formed the Cretan labyrinth, and invented the auger, axe, glue, plumb-line, saw, and masts and sails for ships.

Da'mon. The friend of Pythias.

Dana'ides, or Be'lides. The fifty daughters of Danaus, king of Argos, all of whom, except Hypermnestra, killed their husbands on the first night of their marriage, and were therefore doomed to draw water out of a deep well, and eternally pour it into a cask full of holes.

Daph'ne. A nymph beloved by Apollo; the daughter of the river Peneus; changed into a

Daph'nis. A shepherd of Sicily and son of Mercury; educated by the nymphs, and inspired by the Muses with the love of poetry.

Dar'danus. A son of Jupiter and founder of

Deida'mia. The daughter of Lycomedes, king of Scyros; wife of Achilles, and mother of of Scyru Pyrrhus.

Deiph'obus. A son of Priam and Hecuba; married Helena after the death of Paris, but betrayed by her to the Greeks.

Dejani'ra. Wife of Hercules, who killed herself in despair, because her husband burnt himself to avoid the torment occasioned by the poisoned shirt she had given him to regain his love.

Del'phi. A city of Phocis, famous for a temple and an oracle of Apollo.

Denca lion. The son of Prometheus, and king of Thessaly, who, with his wife Pyrrha, was pre-served from the general deluge, and repeopled the world by throwing stones behind them, as directed by the oracle.

Dian'a. Daughter of Jupiter and Latona, and goddess of hunting, chastity and marriage.

Di'do. Founder and queen of Carthage; daughter of Belus, and wife of Sichæus. According to Virgil, she entertained Eneas on his voyage to Italy, and burnt herself through despair, because he left her.

Diome'des. Son of Tydeus, and king of Ætolia ned great reputation at Troy, and, ysses, carried off the Palladium. Ulysses,

Dir'ce. Wife of Lycus, king of Thebes; dragged to death by a mad bull.

Dry'ades. Nymphs of the woods.

Ech'o. The daughter of Aer, or Air, and Tellus, who pined away for love of Narcissus.

Elleo'tra. Daughter of Agamemnon and Clytem-nestra; instigated her brother Orestes to revenge their father's death upon their mother and Ægis-

Elys'ium. The happy residence of the virtuous after death.

hi'mera. A strange monster of Lycia, killed by Bellerophon.

Hi'ron. A Centaur, who was preceptor to Strongest of the giants; conspired against Jupiter, and attempted to scale heaven.

Endym'ion. A shepherd and astronomer of Caria, condemned to a sleep of thirty years.

Epe'us. The artist who made the Trojan horse inventor of the sword and buckler. Er'ato. The Muse of lyric and amorous poetry

Er'eane. A river whose waters inebriated. **Er'ebus.** The son of Chaos and Nox; an infernal deity. A river of hell, and often used by the poets for hell itself.

Erin'nys. The Greek name for the Furies, or Eumenides.

E'ros. A name of Cupid.

Eumen'ides. A name of the Furies.

Euphor bus. The son of Panthous; slain by Menclaus in the Trojan war.

Euphros'yne. One of the three Graces.

Euro'pa. The daughter of Agenor, carried by Jupiter, in the form of a white bull, into Crete.

Eury'ale. A queen of the Amazons. Also one of the three Gorgons

Eury'alus. A Peloponnesian chief in the Tro-jan war. Also, a Trojan and a friend of Nisus, for whose loss Æneas was inconsolable.

Euryd'ice. Wife of Orpheus; killed by a serpent on her marriage day.

Euryl'ochus. One of the companions of Ulysses; the only one who was not changed by Circe into a hog.

Euter'pe. One of the Muses, presiding over

Evad'ne. Daughter of Mars and Thebe; threw herself on the funeral pyre of her husband, Cata-

Fab'ula. Goddess of lies.

Fa'ma. Goddess of report, etc.

Fates. Powerful goddesses, who presided over the birth and the life of mankind, were the three daughters of Nox and Erebus, named Clotho, Lachesis and Atropos. Clotho was supposed to hold the distaff, Lachesis to draw the thread of human life, and Atropos to cut it off.

Fau'na, and Fatu'a. Names of Cybele.

Fau'ni. Rural gods, described as having the legs, feet and ears of goats.

Fau'nus. Son of Mercury and Nox, and father of the Fauni.

Flo'ra. The goddess of flowers.

Fortu'na. The goddess of fortune; said to be blind.

Fur'ies. The three daughters of Nox and Acheron, named Alecto, Tisiphone and Megæra, with hair composed of snakes, and armed with whips, chains, etc.

Galate'a. A sea-nymph, daughter of Nereus and Doris, passionately loved by Polyphemus.

Gan'ymede. The son of Tros, King of Troy, whom Jupiter, in the form of an eagle, snatched up and made his cup-bearer.

Ge'ryon. A monster, having three bodies and three heads, and who fed his oxen with human flesh, and was therefore killed by Hercules.

Gor'dius. A husbandman, but afterward king of Phrygia, remarkable for tying a knot of cords, on which the empire of Asia depended, in so in-tricate a manner, that Alexander, unable to un-ravel it, cut it asunder.

Corgons. The three daughters of Phorcus and Ceta, named Stheno, Euryale and Medusa. Their bodies were covered with impenetrable scales, their hair entwined with serpents; they had only one eye betwixt them, and they could had only one eye betwixt them, and they could change into stones those whom they looked on.

Gra'ces. Three goddesses, Aglaia, Thalia and Euphrosyne, represented as beautiful, modest Euphrosyne, represented as beautiful, a virgins, and constant attendants on Venus.

Ha'des. A title of Pluto.

Har'pies. Winged monsters, daughters of Nep-tune and Terra, named Aello, Celæno and Ocy-

pete, with the faces of virgins, the bodies of vul-tures, and hands armed with claws.

He'be. The daughter of Juno; goddess of youth, and Jupiter's cup-bearer; banished from heaven on account of an unlucky fall.

Hec'tor. The son of Priam and Hecuba; the most valiant of the Trojans, and slain by Most val

Hec'uba. The wife of Priam, who tore her eyes out for the loss of her children.

Hel'ena, or Hel'en. The wife of Menelaus, and the most beautiful woman of her age, who, running away with Paris, occasioned the Trojan

Hel'enus. A son of Priam and Hecuba, spared the Greeks for his skill in divination

Helle. The daughter of Athamas, who, flying from her stepmother Ino, was drowned in the Pontic Sea, and gave it the name of Hellespont.

Her'cules. The son of Jupiter and Alcmena; the most famous hero of antiquity, remarkable for his great strength and numerous exploits.

Her'mes. A name of Mercury.

Hermi'one. The daughter of Mars and Venus, and wife of Cadmus; was changed into a serpent. Also, a daughter of Menelaus and Helena, mar-ried to Pyrrhus.

He'ro. A beautiful woman of Sestos, in Thrace, and priestess of Venus, whom Leander of Abydos loved so tenderly that he swam over the Hellespont every night to see her: but he, at length, being unfortunately drowned, she threw herself, in despair, into the sea.

Heaper'ides. Three nymphs, Ægle, Arethusa and Hesperethusa, daughters of Hesperus. They had a garden bearing golden apples, watched by a dragen, which Hercules slew, and bore away

Hes'perus. The son of Japetus, and brother to Atlas; changed into the evening star.

Hippolytus. The son of Theseus and Antiope, or Hippolyte, who was restored to life by Æsculapius, at the request of Diana.

Hippom'enes. A Grecian prince, who, beating
Atalanta in the race by throwing golden apples
before her, married her. They were changed by

Hyacin'thus. A beautiful boy, beloved by Apollo and Zephyrus. The latter killed him; but Apollo changed the blood that was spilt into a flower called hyacinth.

Hy'ades. Seven daughters of Atlas and Æthra, changed by Jupiter into seven stars.

Hy'dra. A celebrated monster, or serpent, with seven, or, according to some, fifty heads, which infested the Lake Lerna. It was killed by Hercules.

Hy'men. Son of Bacchus and Venus, and god marriage.

Hyp'erion. Son of Ccelus and Terra.

Bacchus a bottle of wine, he went into Attica to show men the use of it, but was thrown into a well by some shepherds whom he had made drunk and who thought he had given them poison.

Io'arus. The son of Dædalus, who, flying with his father out of Crete into Sicily, and soaring too high, melted the wax of his wings, and fell into the sea, thence called the Icarian sea.

70. The daughter of Inachus, turned by Jupiter into a white heifer, but afterward resumed her former shape; was worshipped after her death by the Egyptians, under the name of Isis.

Inhigeni'a. The daughter of Agamemnon and Clytemnestra, who, standing ready as a victim to be sacrificed to appease the ire of Diana, was by that goddess transformed into a white hart and made a priestess.

I'ris. The daughter of Thaumas and Electra; one of the Oceanides, and messenger and companion of Juno, who turned her into a rainbow.

Ixi'on. A king of Thessaly, and father of the Centaurs. He killed his own sister, and was punished by being fastened in hell to a wheel per-petually turning.

Ja'nus. The son of Apollo and Creusa, and first king of Italy, who, receiving the banished Saturn, was rewarded by him with the knowledge of husbandry, and of things past and future.

Ja'son. The leader of the Argonauts, who, with Medea's help, obtained the golden fleece from Colchis.

Jooas'ta. The daughter of Creon. She unwittingly married her own son, Œdipus.

Ju'no. The daughter of Saturn and Ops; sister and wife of Jupiter, the great queen of heaven, and of all the gods, and goddess of marriages and births.

Ju'piter. The son of Saturn and Ops; the preme deity of the heathen world, the most powerful of the gods, and governor of all things. The son of Saturn and Ops; the su-

Laogoon. A son of Priam and Hecuba, and high priest of Apollo, who opposed the reception of the wooden horse into Troy, for which he and his two sons were killed by serpents.

Laom'edon. A king of Troy, killed by Hercules for denying him his daughter Hesione after he had delivered her from the sea-monster.

La'res. Inferior gods at Rome, who presided over houses and families; sons of Mercury and

Laver'na. A goddess of thieves.

Lean'der. Sec Hero.

Le'the. A river of hell whose waters caused a total forgetfulness of things past.

Luben'tia. Goddess of pleasure.

Lu'cifer. The name of the planet Venus, or morning star; said to be the son of Jupiter and

Luci'na. A daughter of Jupiter and Juno, and a goddess who presided over childbirth.

Lu'na. The moon; the daughter of Hyperion and Terra.

Luper'calia. Feasts in honor of Pan.

Mars. The god of war.

Mede'a. The daughter of Ætes, and a wonder-ful sorceress or magician; she assisted Jason to obtain the golden fleece.

Medu'sa. The chief of the three Gorgons; killed by Perseus.

Megæ'ra. One of the Furies.

Meg'ara. Wife of Hercules.

Melpom'ene. One of the Muses, presiding over

Mem'non. The son of Tithonus and Aurora, and king of Abydon; killed by Achilles for assisting Priam, and changed into a bird at the request of his mother.

Menela'us. The son of Atreus, king of Sparta; brother of Agamemnon, and husband of Helen.

Men'tor. The faithful friend of Ulysses, the

governor of Telemachus, and the wis

Mer'cury. The son of Jupiter and Maia; mes-senger of the gods, inventor of letters, and god of eloquence, commerce and robbers.

Mi'das. A king of Phrygia, who had the power given him of turning whatever he touched into gold.

Miner'va. The goddess of wisdom, the arts, and war; produced from Jupiter's brain.

Min'otaur. A celebrated monster, half man and half bull.

Mnemos'yne. The goddess of memory, and mother of the nine Muses.

Mo'mus. The son of Nox, and god of folly and pleasantry.

Mor'pheus. The minister of Nox and Somnus, and god of sleep and dreams.

Mors. Goddess of death.

Mu'ses. Nine daughters of Jupiter and Mnemosyne, named Calliope, Clio, Erato, Euterpe, Melpomene, Polyhymnia, Terpsichore, Thalia and Urania. They were mistresses of all the sciences, and governesses of the feasts of the gods. Mu'ta. Goddess of silence.

Na'iades. Nymphs of streams and fountains.

Narcis'sus. A beautiful youth, who, falling in love with his own reflection in the water, pined love with his own ref away into a daffodil. Nem'esis. One of the infernal deities, and god

dess of revenge.

Nep'tune. The son of Saturn and Ops; god of the sea, and, next to Jupiter, the most powerful deity.

Ne'reids. Sea-nymphs.

Nes'tor. The son of Neleus and Chloris, and king of Pylos and Messenia. He fought against the Centaurs, was distinguished in the Trojan war, and lived to a great age.

Ni'obe. Daughter of Tantalus, and wife of Amphion, who, preferring herself to Latona, had her fourteen children killed by Diana and Apollo, and wept herself into a stone

Nox. The most ancient of all the deities, and goddess of night.

Ocean'ides. Sea-nymphs, daughters of Oceanus; three thousand in number.

Oce'anus. An ancient sea-god.

CEd'ipus. King of Thebes, who solved the rid-dle of the Sphinx, unwittingly killed his father, married his mother, and at last ran mad and tore out his eyes.

Om'phale. A queen of Lydia, with whom Hercules was so enamored that he submitted to spinning and other unbecoming offices.

Ops. A name of Cybele.

Ores'tes. The son of Agamemnon.

Or'phens. A celebrated Argonaut, whose skill in music is said to have been so great that he could make rocks, trees, etc., follow him. He was the son of Jupiter and Calliope.

Osi'ris. See Apis.

Palla'dium. A statue of Minerva, which the Trojans imagined fell from heaven, and which their city was deemed unconquerable.

Pallas and Pylotis. Names of Minerva.

Pan. The son of Mercury, and the god of shep-herds, huntsmen, and the inhabitants of the country.

Pando'ra. The first woman, made by Vulcan, and endowed with gifts by all the deities. Jupiter gave her a box which contained all the evil and miseries of life, but with hone at the bettern miseries of life, but with hope at the bottom

Par'is, or At'exander. Son of Priam and Hecuba; a most beautiful youth, who ran away with Helen, and thus occasioned the Trojan war.

Parnas'sus. A mountain of Phocis, famous for a temple of Apollo; the favorite residence of the Muses.

Peg'asus. A winged horse belonging to Apollo and the Muses, which sprung from the blood of Medusa when Perseus cut off her head.

Pena'tes. Small statues, or household gods.

Penel'ope. A celebrated princess of Greece, daughter of Icarus, and wife of Ulysses; cele-brated for her chastity and constancy in the long absence of her husband.

Per'sens. Son of Jupiter and Danaë: formed many extraordinary exploits by me of Medusa's head.

of Necusa's nead.

Pha'eton. Son of Sol (Apollo) and Climene.
He asked the guidance of his father's chariot for
one day as a proof of his divine descent; but,
unable to manage the horses, set the world on
fire, and was therefore struck by Jupiter with a
thunderbolt into the river Po.

Philomela. The daughter of Pandion, king of Athens; changed into a nightingale.

Phin'eas. King of Paphlagonia; had his eyes torn out by Boreas, but was recompensed with the knowledge of futurity. Also, a king of Thrace turned into a stone by Perseus.

Phoe'bus. A title of Apollo.

Ple'iades. Seven daughters of Atlas and Pleie, changed into stars

Plu'to. The son of Saturn and Ops, brother of Jupiter and Neptune, and the god of the infernal

Plu'tus. The god of riches.

Pomo'na. The goddess of fruits and autumn. Polyhym'nia. The Muse of rhetoric.

Pri'am. The last king of Troy, the son of La-omedon, under whose reign Troy was taken by

Prome'theus. The son of Japetus; said to have stolen fire from heaven to animate two bodies which he had formed of clay, and was therefore chained by Jupiter to Mount Caucasus, with a vulture perpetually gnawing his liver.

Pros'erpine. Wife of Pluto.

Pro'teus. The son of Oceanus and Tethys; a sea-god and prophet, who possessed the power of changing himself into any shape.

Psy'che. A nymph beloved by Cupid, and made immortal by Jupiter.

Pyg'mies. A nation of dwarfs only a span long, carried away by Hercules.

Pyl'ades. The constant friend of Orester

Pyramus and Thisbe. Two lovers of Baby-lon, who killed themselves with the same sword, and thus caused the berries of the mulberry tree, under which they died, to change from white to

Python. A hu "y'thon. A huge serpent, produced from the mud of the deluge; killed by Apollo, who, in memory thereof, instituted the Pythian games.

Re'mus. The elder brother of Romulus, killed by him for ridiculing the city walls.

Rhadaman'thus. One of the three infernal

Rom'ulus. The son of Mars Ilia; thrown into the Tiber by his uncle, but saved, with his twin brother, Remus, by a shepherd; became the founder and first king of Rome.

Sa'lii. The twelve frantic priests of Mars. Sa'lus. Goddess of health.

Saturnalia. Feasts of Saturn.

Sat'urn. A son of Cœlus and Terra; god of time. Sat'yrs. Attendants of Bacchus; horned mon-sters, half goats, half men.

Sem'ele. The daughter of Cadmus and Thebe, and mother of Bacchus.

Semir'amis. A celebrated queen of Assyria, who built the walls of Babylon; was slain by her own son, Ninyas, and turned into a pigeon.

Sera/pis. See Apis. Sile'nus. The foster-father, master and com-panion of Bacchus. He lived in Arcadia, rode on an ass, and was drunk every day.

Si'rens. Sea - nymphs, or sea - monsters, the daughters of Oceanus and Amphitrite.

Sis'yphus. The son of Æolus; a most crafty prince, killed by Theseus, and condemned by Pluto to roll up hill a large stone, which con-stantly fell back again.

Sol. A name of Apollo.

Som'nus. The son of Erebus and Nox, and the god of sleep.

Sphinx. A monster, who destroyed herself because Œdipus solved the enigma she proposed.

Sten'tor. A Grecian whose voice is reported to have been as strong and as loud as the voices of fifty men together.

Sthe'no. One of the three Gorgons.

Styx. A river of hell.

Sylvanus. A god of woods and forests.

Ta'cita. A goddess of silence.

Tan'talus. The son of Jupiter, and king of Lydia, who served up the limbs of his son, Pelops, to try the divinity of the gods, for which he was plunged to the chin in a lake of hell, and doomed to everlasting thirst and hunger.

Tar'tarus. The part of the infernal regions in which the wicked were punished.

Tau'rus. The bull under whose form Jupiter carried away Europa.

Telem'achus. The only son of Ulysses.
Terpsich'ore. The Muse presiding over danc-

The mis. The daughter of Cœlus and Terra, and goddess of justice.

Ti'phys. Pilot of the ship Argo.

Tisiph'one. One of the three Furies.

Ti'tan. The son of Cœlus and Terra, elder brother of Saturn, and one of the giants who warred against heaven.

Titho'nus. The son of Laomedon, loved by Aurora, and turned by her, in his old age, into a

Aurora, and com--grasshopper.

Tri'ton. The son of Neptune and Amphitrite, a
powerful sea-god, and Neptune's trumpeter.

Tro'ilus. A son of Priam and Hecuba.

Troy. A city of Phrygia, famous for holding out a siege of ten years against the Greeks, but finally captured and destroyed.

Ulys'ses. King of Ithaca, who, by his subtlety and cloquence, was eminently serviceable to the Grecks in the Trojan war.

Ura'nia. The Muse of astronomy.
Ve'nus. One of the most celebrated deities of the ancients, the wife of Vulcan, the goddess of beauty, the mother of love, and the mistress of the graces and of pleasures.

Vertum'nus. A deity of the Romans, who pre- Zeus. A title of Jupiter.

sided over spring and orchards, and who was the lover of Pomona.

Ves'ta. The sister of Ceres and Juno, the god-dess of fire, and patroness of vestal virgins.

Viri'placa. An inferior nuptial goddess, who reconciled husbands and wives. A temple at Rome was dedicated to her, whither the married counterpoised of the account. couple repaired after a quarrel.

Vul'can. The god who presided over subterra-neous fire, patron of workers in metal.

Zeph'yrus. The west wind, son of Æolus and Aurora, and lover of the goddess Flora.





A DICTIONARY OF MUSICAL TERMS.



Accellerando, or Accel. Quicken the time | E. And gradually.

Adagio. Very slow

Ad Libitum, or Ad Lib. At will. Affettuoso. Affecting, with pathos.

Agitato. Agitated.

Al Fine. To the end.

Allegretto. Somewhat cheerful, but not so quick as Allegro.

Allegro. Quick.

Al Segno. To the sign, signifying that the performer must go back to the sign: S:, and play from that mark to the word Fine.

Amoroso. Lovingly.

Andante. Somewhat slow.

Andantino. Not quite so slow as Andante.

Animato. In an animated style. A poco a poco. Little by little.

Aria. An air or song. Assai. Very, extremely.

A tempo. In the regular time.

Bis. Twice (repeat).

Brillante. Brilliant.

Calando. Diminishing gradually in tone and

Cantabile. In a graceful, singing style.

Con Moto. In agitated style. With spirit.

Con Spirito. With quickness and spirit,

Coda. A few bars added to terminate a composition.

Colla Voce. With the voice or melody.

Con Brio. With brilliancy.

Con Expressione. With expression.

Orescendo, or Ores. Gradually increase the volume of tone. Da Capo, or D. C. Repeat from the beginning to the word Fine.

Decrescendo, or Decres. Gradually diminish the volume of tone.

Delicato. Delicately.

Del Segno. Sce Segno.

Diminuendo, or Dim. Same as Decrescendo. Dolce, or Dol. In a sweet, smooth style.

Doloroso. In a mournful, pathetic style.

Expressione. With expression.

Fine. The end.

Forte, or f. Loud.

Fortissimo, or ff. Very loud.

Forzando, or Fz. Signifies that the note is to be given peculiar emphasis or force.

Forza. Force. Fuoco. With fire.

Grave. Extremely slow.

Grazioso. In a graceful, elegant style.

Impromptu. An extemporaneous production.

L. H. Left hand. Larghetto. Slow and solemn, but less so than

Largo. Very slow and solemn. Legeremente. Lightly, gayly.

Lentando. Slower by degrees.

Legato. In a smooth and connected manner.

Lento. In a slow time.

Loco. Place, play as written.

Maestoso. Majestic and dignified.

Martellato. Struck with force. Meno. Less.

Mezzo, or M. Neither loud nor soft-medium

Mezzo Forte, or mf. Rather loud.

Mezzo Piano, or mp. Rather soft. Moderato. Moderate.

Molto. Very. Mosso. Movement.

Moto, or Con Moto. With agitation and

Morendo. Dying away.

Non Troppo. Not too much.

Obligato. Cannot be omitted.

Ottava, or 8va. An octave higher.

Patetico. Pathetically.

Pastorale. A soft and rural movement.

Piano, or p. Soft.

Pianissimo, or pp. Very soft.

Piu. Very.

Pooo. A little, somewhat.

Pomposo. Pompous, grand.

Presto. Very quick.

Prestissimo. As quick as possible.

Quasi. As if.

Rallentando, or Rall. A gradual diminu-tion of tone and retarding of movement.

Religioso. In a solemn style.

Ritardando, or Ritard, or Rit. Gradually

Rinforzando, or Rf. With additional force.

Ritenuto. Hold back the time at once.

Scherzando. Playfully.

Segue. Continue as before.

Seria. Seriously.

Sempre. Throughout - always.

Semplice. In a simple, unaffected style.

Segno, or :S:. Sign; as, Al segno, to the sign; Dal Segno, repeat from the sign to the word Dai ... Fine.

Senza. Without.

Sforzando. Emphasized.

Sincopato. Forced out of time.

Smorzando. Smoothed, decreased.

Soave. Soft and delicate.

Sotto Voce. In an undertone.

Sostenuto. In a smooth, connected style. Spirito, or Con Spirito. With spirit.

Staccato. Detached, short.

Tempo. In time.

Tempo di Marcia. In marching time. Tempo di Valse. In waltz time,

Tempo Primo. In the original time.

Trillando. Shaking on a succession of notes. Tranquillo. Tranquilly.

Tutto Forza. As loud as possible.

Veloce. With Velocity.

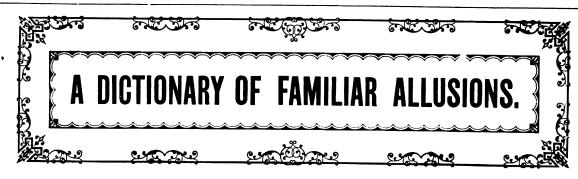
Vigoroso. Boldly, vigorously.

Vivace. With extreme briskness and anima-

Vivo. Animated, lively.

Volti Subito. Turn over the pages quickly.

Zeloso. With seal.



Words and Phrases, Persons, Places, Pictures, Buildings, Streets and Monuments frequently alluded to in Literature and in Conversation.

HO has not met, either in reading or conversation, with allusions to matters with which he was previously unacquainted?

Facts and fancies of history and romance are continually encountered, to which only a liberal education or a wide accurate. Facts and fancies of history and romance are continually encountered, to which only a liberal education or a wide course of study will give the key. We have gathered below a glossary of the most frequent of these allusions, and we flatter ourselves that the succeeding pages will throw a flood of light upon many interesting topics which to the majority of people have heretofore been dark and inext able.

Abderite. Democritus, the original laughing philosopher, was born in Abdera, a Thracian city. From him a scoffer or person given to continual laughing is called an Abderite.

Abraham's Bosom. The rest of the

Abyla and Calpe, the Pillars of Hercules, the exit from the Mediterranean.

Academics. Plato's disciples were so called from the Academy.

Academy. (Academe.) Plato founded his school in a gymnasium of this name near Athens. 368 B. C.

Academy, The French. A French scientific body limited to forty members.

Acadia. Formerly the name of Nova

Adam's Apple. A part of the throat where, it is said, a piece of the forbidden fruit lodged.

Admirable Crichton, The. James Crichton, an accomplished Scotchman of the sixteenth century.

Admiral. The highest rank in the Navy. Æneid. An epic poem by Virgil.

Ages. The five ages of the world according to Hesiod, are the Golden, the Silver, the Brazen, the Heroic and the Iron.

Alabama. A Confederate privateer suilt in England. Sunk by the Kearsarge June 19th, 1864.

Aladdin's Window, To Finish. Trying to complete another's work. Aladdin's palace was perfect except one window left for the Sultan to finish, but his treasure failed him.

Albany Regency. Name applied sixty years ago to some Democrats at Albany, N. Y. Albino. A person with white skin and hair and red eyes. The Portuguese so called the white negroes.

Albion. England, so called from the chalky white cliffs.

Aldine Press. Founded by Aldus Manu-Aldine Press. Founded by Aldus Manu-tius at Venice in 1406. Editions of the class-ics issued from this press were called the Aldine editions. This term is now applied to some elegant editions of English works. Alexandrian Library. Was founded by Ptolemy Philadelphus. It contained 700,000 volumes, and was burnt 47 B. C.

Alexandrine Age. 323-640, when Alexandria was the seat of the highest culture.

Alhambra. A magnificent palace and a fortress built by the Moors at Granada, in

All-Hallows. All Saints' day, Nov. 1st. Allah. Arabic name of God.

Almacks. Assembly room in London where the most exclusively aristocratic balls were given.

Almighty Dollar. A phrase first used by Irving in his Creole Village, and which has become quite common. The title of a play.

Alsatia. A quarter in London where criminals take refuge.

Alto-Relievo. Figures in marble or castings projecting one-half or more from the tablet.

Ambrosia. Food of the Gods.

Anachronism. An error in computing

Anacreontics. Poems composed in the manner of Anacreon, a great poet noted for his exact imitation of nature.

Ancien Regime. The French Government previous to the revolution of 1798.

Angling, The Father of. Izaak Walton. Annus Mirabilis. (Wonderful year.)
A. D. 1666. Noted for the great fire in London, the Plague, and an English victory over

Antoninus, The Wall of. Was built by the Romans in A. D. 140 across Scotland be-tween the Clyde and the Frith of Forth; an embankment of earth.

Apollo Belvedere. One of the most heau-tiful and perfect representations of the human form is the statue of Apollo in the Belvedere Gallery of the Vatican Palace at Rome.

Appian Way. The road from Rome to Capua. The oldest Roman road.

Apples of Sodom. Beautiful fruit, but full of ashes. Applied figuratively to the disappointment of sin.

Apple, Golden. Prize for beauty disputed before Paris, between Juno, Pallas Venus; awarded by him to Venus.

Arabesque. Decoration in Moorish style. Areadian. A shepherd; a Greek grazing country named Areadia has furnished this word to the poets. Argo. The ship in which Jason and his fifty-four compani ns sailed when going to Colches for the Golden Fleece.

Argonauts. The adventurers on the Argo. Argus-eyed. Crafty, watchful. Argus had a hundred eyes; the jealous Juno put him on detective duty over Io.

Armada, The Spanish. A fleet of 130 ships gathered by Philip of Spain for the invasion of England in 1500. Queen Elizabeth was busy preparing for resistance when the news came that a storm had completely wrecked the Armada.

Artesian Well. Boring in the earth until water is reached that will flow spontaneously. Their first use was in Artois, France.

Aryans. The stem of the Indo European

Astor Library. Founded by John Jacob Astor in New York City.

Athens, The Modern. Boston.

Augustan Age. As the most flourishing period of the Roman literature was during the time of Augustus, that name is given to any age wherein literature is pre-eminent. Auld Reekie. Scotland.

Avalon. King Arthur's burial-place, Glastonbury.

Ayreshire Poet, The. Burns. His birth-place was near Ayr in Scotland.

Barnburners. A name given some years ago to radical Democrats, a leading man amongst whom was John Van Buren.

Babylonish Captivity. The seventy years' captivity of the Jews at Babylon, 608-538 B.C.

Baconian Philosophy. The inductive philosophy of Lord Bacon.

Balmoral Castle. A Scotch castle owned by Queen Victoria, where she spends most of her time in the summer.

Bank of England. Founded 1691.

Bard of Avon. Shakspere, so called from his home being Stratford-on-Avon.

Barmecide's Feast. A mockery, a de-lusion and a sham. Barmecide asked a starv-ing beggar to dinner, and scated him at a table of empty dishes.

Basilisk. A mythical serpent with power to kill by merely looking at its victim.

Basso Relievo. Figures in marble and castings that project but a little from the plane. Bastlle. French prison and fortress. People were incarcerated here by lettre de cachet, without notice or trial. Destroyed by a mob, 1708.

Battle of the Books. Satire by Dean Swift comparing ancient and modern literature.

Battle of the Kegs. A practical joke on the British General Loring. Detailed in a ballad of the Revolutionary war.

Battery, The. A park in New York City adjoining the river.

Beacon St. The aristocratic residence street of Boston.

Beauty and the Beast. A fairy tale. Beauty lives with the Beast to save her father's life. By her love she disenchants the Beast, who proves to be a great Prince.

Bedlam. A mad-house.

Bee, The Attic. Plato; so called from his honeyed style.

Bee, The Busy. An example of communal industry.

Beelzebub. A Philistine deity.

Begging the Question. Assuming as true what you are to prove.

Belle France, La. Beautiful France. Belgravia. Fashionable quarter of Lon-

Bell the Cat. In a convention of mice it was proposed to hang a bell on the cat's neck, to give warning of her coming. No one would serve on the committee.

Bell, The Passing. Rung formerly when persons were dying.

Beloved Disciple, The. St. John.

Bess, Good Queen. Queen Elizabeth. Bibliotheque National. (National Library.) At Paris; contains over 1,000,000 books, 150,000 MSS.

Billingsgate. Coarse language. Such as is used at the fish market of Billingsgate in London; a fishwife's tongue being said to be remarkable expressive. remarkably expressive.

Black Death. A plague which desolated Europe, Asia and Africa in the fourteenth century.

Black Friday. Gold panic Sept. 26th, 1869. Immense fortunes lost and won same day. Investigation could never discover the true inwardness of it.

Black Hole of Calcutta. cell wherein Surajah Dowlah shut up 146 British soldiers; only 23 lived till morning.

Black Prince, The. Edward, Prince of Wales, son of Edward III.

Black Republicans. The Republican party of U. S. so called when opposing the extension of slavery.

Blarney Stone. Its supposed virtue when kissed is to impart a smooth and oily tongue. Profusion of compliments is called Blarney. This stone is in Blarney Castle, near Cork,

Bluebeard. A wife-killing tyrant, in a nursery story.

Blue Laws. Some severe New England statutes were so called.

Blue Stocking. A literary society at Venice in 1400, whose members wore blue stockings, is the origin of this name for a female pedant.

Bohemian. As opposed to Philistine, an artist or literary man living loosely by his wits. Bois de Boulogne. A Parisian prome-

Border, The. Frontier of England and

Border Minstrel, The. Sir Walter Scott. Border States. Maryland, Delaware, Virginia, Kentucky, Missouri.

Bourgeoisie. geoisie. A class of the people of mostly composed of traders and manufacturers

Boulevard. A wide street in Paris, in the place of the ancient ramparts.

Bourse. Parisian stock exchange.

Bow Bells. A set of bells in the Church of St. Mary-le-Bow, London. One "born within sound of Bow Bells" is a Cockney.

Bowery, The. A New York thoroughfare.

Boycott. To refuse to have anything to do with a person. To let him severely alone. A trying ordeal passed through by Captain Boycott in Ireland in 1881. No one would sell to him, buy from him, work for him or speak to him. speak to him.

Brandy Nose. Queen Anne of England. Breeches Bible, The. An edition in thich "aprons" in Gen. iii. 7 is rendered breeches."

Bride of the Sea. Venice.

Bridge of Sighs. In Venice. Connects Doge's Palace and State Prison. Over this bridge the condemned passed when on their way to be executed.

British Museum. Library and museum in London.

Broadway. The principal business street of New York.

Brook Farm. A Socialistic community to carry out the idea of Fourierism; was founded at West Roxbury, Mass., 1841.

Brother Jonathan. America; an American. Some doubt as to its origin, but it is said to come from Gov. Jonathan Trumbull, of Connncticut, in speaking of whom Washington would say, "We must consult Brother Jonathan."

Buncombe. Clap-trap speeches, to cajole constituents, more than for immediate effect. Buncombe is in North Carolina. A North Carolina member said a fiery speech was not delivered to the House, but to Buncombe.

Bunker Hill Monument. An obelisk of granite marking the site of the battle of Bunker Hill, fought between the British and Americans, June 17, 1775.

Cachet, Lettres de. (Scaled letters.) Blank warrants with the seal of the French King already affixed for imprisoning or re-leasing any person in the Bastile.

Caledonia. Scotland.

Calumet. An Indian pipe. In old times a treaty of peace with the red men would be ratified by smoking the calumet.

Campagna. The plains around the city of Rome.

Carbonari. A secret political society organized in Italy, 1820. Carmagnole. Song and dance in the

French Revolution. Cartesian Philosophy. From Descartes, "I think, therefore I exist."

Castle Garden. At New York City, the landing-place of emigrants.

landing-place of emigrants.

Catacombs. Subterranean sepulchres.

About three miles from Rome in the Appian
Waya vast number of long underground passages about three feet wide and ten feet high.
On each side in niches were deposited the
bodies of the martyrs and early Christians.
These niches were closed with tiles or slabs
of marble having proper inscriptions on
them. During the persecutions the Christians
concealed themselves in these caves.

Cavalier Servente. The escort of a married woman.

Cecilia, St. A martyr; patroness of

Celestial Empire. Ch Emperors were all divinities. China, whose first Central Park. The great park of New York City; contains 863 acres.

Champs de Mars. A field in Paris for military manœuvres.

Champs Elysees. A promenade in Paris. Charter Oak. A tree in Hartford, Conn., in which the Colonial Charter was secreted in 1688. It was blown down in 1856.

Chauvinism. Patriotism of the blatant kind, from Chauvin, one of Scribe's charac-

Cheapside. A thoroughfare in London. Chiltern Hundreds, To Accept the. A member of the English Parliament cannot resign, and cannot hold office during membership. If he wishes to leave, he can vacate his seat by accepting the office of Steward of the Chiltern Hundreds.

Chiltern Hundreds. A tract in Buck-inghamshire and Oxfordshire, England, to which is attached the nominal office of steward under the crown.

Christ Church. The name of the largest college in the University of Oxford.

Cid, The. The Spanish hero, Don Roderigo Laynez, Count of Bivar.

Cincinnati, The. Society of American Revolutionary officers.

Citizen King, The. Louis Philippe of

Cockaine, Land of. An imaginary country of ease and pleasure; usually applied to London.

Colossus of Rhodes. Colossus of Rhodes. A brass statue, one of the wonders of the world, which stood astride the entrance to the port of Rhodes.

Columbia. Poetical name of the United States

Column of Vendome. A stone pillar in Paris erected by Napoleon, commemorating the successes of the French armies. It was thrown down by the Communists in 1871.

Confederate States. The eleven States which seceded in 1861, Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia.

Congressional Library. At Washington; it is the largest in the United States.

Consols. English public securities. Copperheads. Northern sympathizers with the South in the Civil war.

Corncrackers, The. Kentuckians. Corn Law Rhymer, The. Ebenezer Elliott.

Corso. The chief thoroughfare of Rome. Crapaud, Johnny. A Frenchman.

Crapaus, Johnny. A restantant.

Cradit Mobilier. An authorized stock company. The American Credit Mobilier formed for raising money for the Pacific Railroad raised a foul odor in 1873.

Crocodile Tears. Counterfeit sorrow. A fable says the crocodile weeps as it eats its

victim.

Cumberland. A United States vessel sunk by the Confederate ram Merrimac in Hampton Roads, March 8, 1862.

Curfew Bell. At 8 o'clock, the ringing of the curfew bell in old times in England, all lights were extinguished, the fires raked up and covered, and the people of the Kingdom retired to bed. This rule, made by William the Conqueror, lasted for a long time, and even yet there is some sign of its observance in the nine o'clock bell rung in many parts of New England. New England.

Damocles' Sword. Damocles, having commented upon the happiness which the tyrant Dionysius must enjoy, was invited by him to a feast where, whilst discussing the good things, he looked up and discovered a sword hanging by a single hair immediately over his head. Darby and Joan. The loving couple.

Darwinian Theory. An explanation of the origin of species in animals, that they come from one or a few original forms, the present differences resulting from develop-ment and natural selection.

De Profundis. The 130th Psalm; part of the burial service.

Debatable Ground. Land on the west-ern border of Scotland, disputed between England and Scotland.

Defender of the Faith. Henry VIII. eccived this title from Pope Leo. X., and received this title from Pope Leo. X his successors have borne it ever since.

Directory, The French. By the Constitution of 1705, the executive power was vested in five Directors; it lasted only four years.

Dixie, The Land of. The Southern States. Dizzy. The nickname of Benjamin Disraeli, Larl of Beaconsfield.

Doctors' Commons. The place where the Ecclesiastical Court sat in London.

Doctrinaire. A cant term in French politics, given to the proposer of an impracticable compromise measure.

Doe, John. The fictitious plaintiff in ejectment suits, the defendant being Richard Roe.

Doomsday Book. Compiled by order of William the Conqueror. It contained a survey and an estimate of value of all the lands in England.

Donnybrook Fair. A once celebrated annual fair near Dublin.

Douny Bible, The. The English Bible authorized by the Roman Catholic Church; first published at Douay, France.

Downing Street. The official residence of the English Prime Minister since the time of Sir Robert Walpole is in Downing Street,

Drury Lane Theater. In London; was opened in 1688

Dying Gladiator. An ancient statue in the Capitol at Rome.

Eastern States, The. Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

Ecce Homo. A painting by Correggio epresenting the Savior crowned with

Ecole Polytechnique. A Parisian school, the graduates of which are given places in the public service.

El Dorado. A fabulous region in South America, surpassing all other countries in the production of gems and precious metals. A name for any wealthy country.

Elephant, Seeing the.

Elgin Marbles. A collection of Greek sculptures made by Lord Elgin. Now in the British Museum.

Escurial, The. A royal residence built by Philip II.; it is the largest structure in Spain, and one of the most splendid buildings in Europe. It is 22 miles from Madrid and contains a palace, a church, a monastery, free schools and a mausoleum.

Eternal City, The. Rome.

Eureka. (I have found it.) Exclamation of Archimedes when he discovered the method of proving that the sum of the squares of the sides of a right-angled triangle equaled the square of the hypothenuse.

Evangelists, Symbols of the. Matthew has a scroll before him and holds a pen; Mark lits writing, with a winged lion by his side; Luke has a pen and a scroll, near him is an ox; John is a young man behind whom is an eagle.

Exclusion, Bill of. A bill which passed the English House of Commons in 1670, pro-posing to exclude the Duke of York from the throne because he was a Roman Catholic.

Expounder of the Constitution, The. Daniel Webster.

Fabian Policy. Delaying; dilatory, From Quintus Fabius Maximus, the Roman General who successfully opposed Hannibal, the Carthaginian, by avoiding a battle and continually harassing him.

Fabius, The American. George Wash-

Fairmount Park. In Philadelphia, where the Centennial Exhibition of 1876 was held; contains nearly 3,000 acres.

Faineants, Les Rois. (Do-nothing Kings.) The last twelve Kings of the Merovingian Dynasty were so called. For about 100 years previous to 720, when Pepin dethroned Childeric III., they were mere puppets, and the supreme authority was exercised by the mayors of the palace.

Falernian. A celebrated ancient Italian wine grown at Falernum.

Faneuil Hall. In Boston, built 1742; called the "cradle of Liberty," for there the Revolu-tionary patriots were wont to assemble.

Farmer George. George III. of England; so called from his love of agriculture.

Fata Morgana. A mirage in the Straits

Father of his Country. George Washington.

Fathers of the Latin Church. St. Ber-Ambrose of Milan, St. Augustine, St. 1 nard, St. Hilary, St. Jerome, Lactantius.

Faubourg St. Antoine. The part of Paris where the workingmen live.

Faubourg St. Germain. Aristocratic

Fenians. A society of Irishmen formed in the United States in 1865 to free Ireland.

Field of the Cloth of Gold. Plain in France where Francis I, and Henry VIII, met on a mutual visit, It is historical on account of the gorgeous display, both parties being most extravagant in their outfit.

Fifth Avenue. A celebrated residence street in New York,

Fighting Joe. The American General Joseph Hooker.

First Gentleman in Europe. George IV. of England.

Five Points. A once notorious locality in New York.

Flagellants. Religious fanatics of the thirteenth century who went about naked and scourging themselves.

Fleet, The. A London prison taken down in 1845.

Flowery Kingdom, The. China.

Flying Dutchman. A spectre ship cruising about the Cape of Good Hope. Forebodes trouble to whoever sees it.

Forte. Strong point.

Fort Sumter. In the harbor of Charleston, S. C. Here were heard the first sounds of the cannons' thunder in the late Civil war.

Fourierism. Charles Fourier, a French visionary, proposed a system of communism in which the world should be divided into "phalansteries" of four hundred families who were to live and work in common.

Freshman. A student in his first year at

Funk, Peter. A mock auction; a person employed to act as an apparent purchaser and bid up articles for sale.

Gadshill. Near Rochester, in Kent, England. Place where Falstaff met so many men in buckram. Charles Dickens' residence was at Gadshill.

Genre Painting. Represents ordinary domestic and rural scenes.

George, St., and the Dragon. St. George, the patron saint of England, is said to have slain in Libya a hideous dragon whose daily food was a virgin.

Gerrymander. The geographical apportionment of districts to give preponderance to one political party. Started in Massachusetts, and named from its Governor, Elbridge Gerry. Example, a shoestring district in Missouri.

Ghetto. The quarter in Rome to which the Jews were formerly restricted.

Ghibelline. One of a faction in Italy in the thirteenth century, which favored the German Emperors, in opposition to the Guelphs, adherents of the Pope.

Girondists; The Gironde. Moderate "Constitutional" Republican party in the French Revolution in 1798.

Glencoe. A pass in Argyleshire, Scotland. Here, February 13, 1691, were massacred thirty-eight of the McDonalds by one hundred and twenty soldiers under Capt. Camp.

Gobelins. A tapestry and carpet manufactory at Paris, founded by Gobelin, a dyer, about 370 years ago.

about 370 years ago.

Godiva, Lady. Wife of Leofric, Earl of Mercia, who offered to remit certain exactions to his tenants if she would ride naked through the streets of Coventry. She did so, all the people closing their doors and keeping within except one, "Peeping Tom," who was struck blind for peeping at her.

Golconda. The neighborhood of some rich diamond mines in India.

Gold Fever. 1840: peopled California

Gold Fever. 1849; peopled California.

Golden Age. A period of innocence and prosperity. Nearly always refers to some past age.

Golden Gate. The entrance to the harbor

Golden Horn. The estuary of the Boshorus, upon whose banks Constantinople is

built.

Gordian Knot. A difficulty; an obstacle. Gordius, King of Phrygia, consecrated to Jupiter a wagon, the beam and yoke of which were tied together by such an intricate knot that no one could unravel it. An oracle having forefold that he who could untie this knot would be master of Asia, Alexander cut it asunder with his sword.

Gordon Riots, The. In 1780 in London, the bill passed by the House of Commons for the relief of the Roman Catholics caused so much ill-feeling that Lord George Gordon, a fanatic, incited the mob to try and force its repeal. Dickens in his Barnaby Rudge gives a vivid description of these riots.

Gotham. A name sometimes applied to New York City. Gotham, The Wise Men of. Noted for their folly. Gotham was an English village.

Great Commoner, The. William Pitt. Great Duke, The. Wellington.

Great Eastern. The largest vessel ever launched. She was built to carry 1,000 passengers and 5,000 tons of cargo. Her chief work has been in the laying of occan telegraph cables.

Great Pyramid, The. Is at Gheezeh, Egypt. It is 484 feet high.

Greenbacks. United States Treasury notes. So named from their color.

Green Isle, The. Ircland. Sometimes also called the Emerald Isle.

Greenwood. A cemetery in Brooklyn, N. Y.

Gregorian Wear. 1532; it being proved that the years were eleven minutes shorter than what they were counted at, Gregory XIII. took ten days of October out of that year and advanced the dates so as to correct the calendar. The reform has been accepted throughout Christendom, except in Russia. Example: George Washington, born February 11, O. S.

Gretna Green. A Scotch village famous for runaway matches.

Grub Street. In London; used to be noted for its literary denizens.

Guelphs. The adherents in the thirteenth century of the Papacy against the German Emperors. They were the constant opponents of the Ghibellines, and between them Italy was kept in turmoil.

Guildhall. The London town hall.

Gunpowder Plot, The. A plot to blow up the English Parliament in its House, November 5, 1605. A cellar underneath was stored with gunpowder intended to be touched off during the session by Guy Fawkes. The discovery was made in time to prevent mischief. To use a modern but inelegant phrase, the plot was considered by some people to be "a put-up job."

Gwess' Ring. A ring which made the

people to be "a put-up job."

Gyges' Ring. A ring which made the wearer invisible. Gyges, having found a man's corpse in a brazen horse that he discovered in a cave, took a ring from the finger of the dead that rendered him invisible. By using this ring he entered unseen the chamber of the King of Lydia and murdered him. He became King.

Habeas Corpus Act, The. Was passed in the time of Charles II. and provides that the body of any person restrained of his liberty must on proper application be brought before a Judge and the reason of his confinement stated. The Judge will then determine the amount of bail he shall furnish, or he will remand him to prison or allow him his freedom, as the case may require.

Haleyon Days. A period of happiness; days of peace and tranquility. The haleyon, as the kingfisher was anciently called, was said to lay her eggs in nests on rocks near the sea during the calm weather about the winter solstice. solstice.

Handleap. Apportionment of the weights that must be carried in a race by different horses, considering their age and strength, to equalize their chances.

Hansard. Name of the firm which prints the debates of the British Parliament.

Hanse Towns. In the twelfth century some commercial cities in the north of Germany formed an association for the protection of commerce. To these other similar cities in Holland, England, France, Spain and Italy acceded, and for centuries this confederacy commanded the respect and defied the power of Kings.

Hanseatio League. The name of the confederation of Hanse towns. There were seventy-two cities in the league, and they held triennial conventions called Hansa. It has long since fallen to pieces. Four of its members, Lubcck, Hamburg, Bremen and Frankfort, are called free cities, but are really part of the German Empire.

Hare, Mad as a March. The hare is wilder than usual in March.

Harpies. Three ravenous and filthy monsters, each having a woman's face and the body of a vulture. Their names were Aello, Ocypete and Celeno. Juno sent them to plunder the table of Phineus.

Hari-Kari. (Happy dispatch.) Japanese

Harvest Moon. The full moon at or nearest the fall equinox; rises for a number of days about sunset.

Heathen Chinee, The. A poem.

Heidelberg Castle. Ruins near Heidelberg, Germany.

Hegira. The date of Mohammed's flight from Mecca, July 16th, 622. The epoch from which the Mohammedans compute their

High Church. The more conservative portion of the Episcopal Church.
High Seas, The. The sea beyond three miles from the coast.

History, The Father of. Herodotus, the Greek historian.

Hobson's Choice. Take what is offered or go without. Tobias Hobson an English stable-keeper, made whatever customer came to hire a horse take the one nearest the door.

Holborn. A street in London by which criminals used to be carried out to execution at Tyburn.

Holy Alliance. Formed in 1816 by Austria. Prussia and Russia.

Holy Family, The. The name of pictures representing in group the infant Jesus, St. Joseph, the Blessed Virgin, John the Baptist, Anna, and St. Elizabeth. The most celebrated are by Michael Angelo at Florence, by Raphael in London, and by Leonardo da Vinci in the Louvre.

Holy Land, The. Palestine.

Holy League, The. The alliance of Pope Julius II., France, Germany, Spain and some of the Italian Republics in 1508, against Venice.

Hont soit qui mal y pense. (Shame to him who evil thinks.) Motto of the highest order of knighthood in Great Britain, that of the Garter, instituted by Edward III. At a ball, a garter of the Countess of Salisbury, having fallen off, was picked up by the King, who expressed himself in the above phrase and fastened it around his own knee. This incident led to the formation of the order.

Honors of War. Allowing a surrendered enemy to keep his arms.

Hotel de Ville. The city hall in French and Belgian cities.

Houris. Beautiful virgins of Paradise; promised by the Koran for the delight of the true believers.

Hundred Days, The. From March 20, 1815, when Napoleon escaped from Elba, to June 22, 1815, when he abdicated.

Iconoclast. (Image-breaker.) A radical

Iliad. A Greek epic poem by Homer, relating the story of the siege of Troy by the Greeks.

Independence, Declaration of, Issued

Independence Hall. In Philadelphia, Pa., where Congress met and adopted the Declaration of Independence.

Index Expurgatorius. A list of books forbidden to be read by the Roman Catholic Church.

Inns of Court. The four London law societies which have the sole right of admitting candidates to the Bar. They are Gray's Inn, Lincoln's Inn, the Inner Temple and the Middle Temple.

Inquisition. A tribunal established in ome countries to try heretics.

Irish Agitator, The. Daniel O'Connell. Iron City, The. Pittsburg, Pa.

Iron Duke, The. The Duke of Welling-

Iron Mask, The Man in the. A mysterious French state prisoner.

Jack Ketch. The hangman. The name of an English hangman.

Jack Robinson. Before you can say Jack Robinson; at once. Jack Robinson was noted for the shortness of his visits; the servant had scarcely time to repeat his name, before he would leave.

Jack, The Giant Killer. A nursery hero

Jack, The American, or Union. The blue ground of the American flag with the stars but without the stripes.

Jacobins. A revolutionary club. 1780, in Jacobins. A revolutionary club, 1789, in Paris, held its meetings in what had been the Jacobin Monastery. They were violent and extreme in the measures they proposed. Their name spread to all similar organizations and to individuals acting with them throughout

Jacobites. Adherents of James II. of England, and of the Stuarts, his descendants. Jardin des Plantes. Botanical and zoological garden in Paris.

Jardin Mabille. Of world-wide notoriety. A Parisian resort where the can-can flourished. Suppressed in 1882.

Jericho, Gone to. Disappeared; ruined. Jerusalem Delivered. An Italian epic poem by Torquato Tasso.

Jingo, Jingoism. Expression applied in England to those who wanted the English Government to assume an aggressive foreign policy, 1874-1880.

John Bull. England. Nickname for an Englishman.

John Chinaman. The Chinese in America.

Johnny Cakes. Made of Indian meal baked in the ashes.

Jubilee, Year of. Among the Jews the Jubilee, Year of. Among the Jews the jubilee came every fiftieth year, which was the year after one week of weeks of years had passed (seven times seven). All slaves who were of Hebrew blood were freed, all debts were canceled and all lands returned to original owners during the jubilee. In the Roman Catholic Church it is observed every twenty-fifth year.

Juggernaut. A Hindoo god who has a famous temple in India. There is an immense car in the service of this god, which, when moved about the country, causes the greatest excitement. The car resembles a large building and its weight is very heavy. It is dragged along by the multitude and their fanaticism is so great that crowds of devotees cast themselves under the wheels and are crushed to death, a fate which they believe ensures paradise. paradise.

Julian Era, The. A method of reckoning time from 46 B.C., when Cæsar reformed the calendar.

Junius, Letters of. Some remarkable political letters written during the reign of George III. Their authorship is unknown.

Kansas, Bleeding. So called by Horace Greeley during the Free Soil controversy.

Kensington Gardens. A London Park near which Queen Victoria was born.

Kilkenny Cats, The. Disputing people; from the old verse:

There once were two cats in Kilkenny, Who each thought there was one cat too manv.

So they howled and they fit, and they scratched and they bit,
Until instead of two cats there wasn't any.

King can do no wrong, The. Meaning that the Ministers and not the King are responsible for mistakes of government.

King of Ivetot. The Seigneur of Ivetot was made king of his estate by the King of France as a recompense for the killing of his father. It was a kingdom of eight square

King Cole. A legendary king of Britain, who affected tobacco and spirits.

King Cotton. A name given to the great Southern industry before the war.

King's Evil. The scrofula. So called from the belief that a king's touch would cure the disease. the disease.

King Log. A good-for-nothing ruler. The name comes from one of Esop's fables, wherein Jupiter puts a log to rule over the frogs.

King-Maker, The. Richard Nevill, the Earl of Warwick, who set up and deposed kings at his will during the Wars of the Roses, in the fifteenth century.

King Stork. A tyrant. The sequel to the Esop fable mentioned above. The frogs grew tired of King Log, whereupon King Stork was brought in at their request, who devoured the whole community.

Kit Kat Club, The. A London club founded in 1688. It had many eminent mem-

Knickerbocker. A member of any old Dutch family in New York. Derived from Irving's immortal history.

Knight of Malta. A chivalric and mon-astic order founded during the Crusades, also called the Knights Hospitallers of St. John.

Know-Nothings. A political party in the United States, whose cardinal principle was opposition to foreign office-holders.

Koh-i-Noor. A Golconda diamond, the largest in the world, now one of the crown diamonds of England. Value, \$625,000.

Koran, The. The Mohammedan Bible. Kremlin, The. The royal Russian residence in Moscow.

Labyrinth, The. A celebrated structure built by Minos, King of Crete, which consisted of a maze out of which no one who entered could find the way back.

Laconic. Curt. So called from the brief speech in fashion in old Laconia, afterwards called Sparta.

Lacrymal Christi. An Italian wine.

Lake School, The. A society of English poets consisting of Coleridge, Wordsworth and Southey.

Land of Bondage, The. Egypt.

Land o' Cakes. The. Scotland.

Land of Nod, The. Sleep; Dreamland. Land of Promise, The. Canaan, the goal of the Jewish wanderings in the wilder-

Lang Syne. Long ago.

Langue d'Oc. Provence, a part of France iso called from the dialect in use.

Langue d'Œil. All of France except

Laocoon, The. A celebrated statue in the Vatican representing Laocoon strangled by serpents.

Laodicean. A person luke-warm in religion.

Lares and Penates. The household gods. Last Judgment, The. The theme of a number of frescoes of the Renaissance period in Italy.

Last Supper, The. Similar to the above. eonardo da Vinci's best canvas is on this

Lateran Palace, The. One of the Papal

Laughing Philosopher, The. Democritus of Abdera, who believed that life was only to be laughed at.

Leaning Tower, The. A celebrated structure at Pisa, Italy, which leans thirteen feet out of the perpendicular; 178 feet high.

Learned Blacksmith, The. Elihu

Burritt.

Leonine Verses. Verses which rhyme at the middle and the end.

Libby Prison. A Confederate gaol for risoners of war at Richmond, Va.

Lilliput. The pigmy land in Gulliver's

Lingua Franca. A dialect of French, Italian and Arabic spoken on the Mediterranean Sea.

Lion and Unicorn. The supporters of the British royal arms.

Lion of the North, The. Gustavus of Sweden, the great leader of the Protestant forces during the Thirty Years' War.

Share. The bigger portion in a So called from one of Esop's Lion's Share.

Little Corporal, The. Napoleon Bona-

Little Giant, The. Stephen A. Douglass. Lloyds. The originators of marine insur-

Lombard Street. The financial street of London.

Lone Star State, The. Texas

Long Parliament. The Parliament which sat for thirteen years at the beginning of the civil war in England. It sat from 1640

Lorelei. A malignant but beautiful water-sprite of the Rhine.

Lotus-Eaters, The. Homer in the Odys-sey describes the effect of eating the lotus as making the eater forget his home.

Louvre, The. The art palace of Paris.

Low Church, The. A part of the Episopal Church which is opposed to cere-

Lusiad, The. The Portuguese epic poem, written by Camoens, describing Vasco da Gama's adventures.

Lynch Law. Mob law. The name comes from a Virginia farmer who instituted the first vigilance committee in America.

Mab, Queen. The queen of the fairies. So called from an Irish fairy princess named Medh, who flourished in the night of time.

Macadamize. Paving with broken stones, to called from the inventor, Sir John Mac-Adam.

Macaronic Verse. A verse made mixing different languages. Macchiavellism. Political trickery.

Madam Tussaud's Exhibition. A fam-

ous London wax-works show. Mad Poet, The. Nathaniel Lee, an in-sane English dramatist.

Madman of Macedonia, The. Alexander the Great. Madman of the North. The. Charles

III. of Sweden. Madonna. The Blessed Virgin.

Maecenas. A noted patron of poets during the reign of Augustus of Rome.

Magna Charta. The charter making the

magna cunrets. In enarter making uncornerstone of English liberty, extorted from King John Lack-Land.

Mahomet's Coffin. The body of Mahomet is said to hang in mid-air over Medina.

Maid of Orleans. Joan of Arc.

Maid of Saragossa. Augustina Zara-goza, the heroine of the siege of Saragossa in 1808-9.

Maiden Queen, The. Elizabeth of Eng-

Maine Law. A prohibitory law first adopted in Maine.

Malthusian Doctrine, The. The theory that the population of the world is growing faster than the food supply. Mammoth Cave. A cave near the Green River, Kentucky, the largest cave in the world.

Man in the Moon. According to the legend the man who first broke the Sabbath.

Mar of Destiny. Napoleon Bonaparte. Man of Iron, The. Bismarck.

Man of Straw. An irresponsible person. Mare's Nest. A matter which seems of importance but turns out to be nothing.

Marriage a la Mode. The title of six satirical pictures by Hogarth.

Marseillaise. The French national air, composed by Rouget de Lisle.

Martinet. A strict disciplinarian. So called from a French officer of the seventeenth

Mason and Dixon's Line. The north boundary of the Slave States, dividing Vir-ginia and Maryland from Pennsylvania.

Mausoleum. The tomb of Mausolus, built by Queen Artemisia, one of the seven wonders of the world.

Mayfair. The west end of London.

Mercator's Projection. (Or Mercator's Chart), is so called after Gerard Mercator, a Flemish geographer of the sixteenth century, the first to give an unbroken view of the whole surface of the earth. In it all the meriaians are straight lines perpendicular to the equator, and all the parallels parallel to the equator, the effect being to greatly exaggerate the polar regions. regions.

Merry Andrew. A buffoon, from Andrew Borde, the whimsical physician of Henry VIII. Merry Monarch, The. Charles II. of England.

Mesmerism. Takes i mer a German physician. Takes its name from Mes-

Mezzo Relievo. Carved or cast figures projecting from the tablet a little more than basso relievo, and something less than alto relievo, are called mezzo relievo.

Middle Ages, The. The period between the destruction of the Roman Empire and the revival of learning in Italy—476 to 1500.

Middle States, The. New York, Pennsylvania, New Jersey and Delaware.

Minnesingers. (Love singers.) The German lyric poets of the twelfth and thirteenth centuries.

Miserere. The fifty-first psalm.

Mississippi Bubble, The. A hollow

Missouri Compromise, The. A measure that prohibited slavery north of 36° 30' north latitude.

Mistress of the Seas. England.

Molly Maguires. A secret society in the United States. Many crimes were attributed to it, especially in Pennsylvania.

Monarch, Le Grand. Louis XIV. of France.

Monroe Doctrine. The United States is not to meddle in European affairs, nor to allow European Governments to meddle in the affairs of the American Continent.

Mont de Piete. A pawnbroker's shop. Montmartre. A Parisian cemetery.

Monumental City, The. Baltimore, Md. Morey Letter, The. A forged letter at-tributing to Gen. Garfield anti-Chinese senti-ments, 1880.

Morganatic Marriage. A marriage be-tween a man of high rank and a woman of a lower one. She does not take her husband's title title.

Mother of Presidents. Virginia; having produced seven Presidents of the United States.

Mother Carey's Chickens. Stormy

Mother Goose. She lived near Boston, and was a nursery rhymer. She sung rhymes to her grandson Thomas Fleet, who printed them in 1819.

Mount Vernon. The home of Washington, in Virginia.

Muscular Christianity. An expression of Charles Kingsley. "A sound mind in a sound body."

Music of the Spheres. Order, harmony. Plate taught that each planet had a siren whose song harmonized with the motion of our sphere and with that of the others.

Namby-Pamby. Childish. A term used for poor literary productions.

Nantes, Edict of. A decree issued at Nantes, France, in 1508, by Henry IV., grant-ing toleration to the Protestant religion. Re-voked by Louis XIV., October 22, 1685.

Nation of Shop-keepers. The given to the English by Napoleon. The name

Natural Bridge, The. A natural arch over Cedar Creek near James River in Vir-ginia. It is 200 feet high.

Newgate. A London prison.

New World. The Americas.

Nibelungen Lied. A German epic poem of the thirteenth century.

Nine Worthies, The. Joshua, David, Judas Maccabæus, Hector, Alexander, Julius Cæsar, Arthur, Charlemagne and Godfrey of

Noctes Ambrosians. The title of a work by Prof. Wilson (Christopher North). Noel. Christmas day.

Non-Conformists. Dissenters from the Church of England.

Northern Giant, The. Russia. Notre Dame. The Cathedral of Paris.

Odyssey. A narrative poem of the adventures of Ulysses on his voyage from Troy to Ithaca-Homer.

Ogres. Giants who feed on human flesh.

Oi Polloi. The multitude. Old Abe. Abraham Lincoln.

Old Bailey. A London criminal court. Old Dominion, The. Virginia.

Old Guard, The. A favorite regiment of Napoleon Bonaparte. In the Chicago Convention, 1880, the friends of Gen. Grant re-ceived this name.

Old Hickory. Gen. Andrew Jackson.

Old Probs. (Old Probabilities.) The U.S. Signal Service.

Old Public Functionary. President James Buchanan

Old South, The. A famous church in Boston, Mass.

Orangeman. A Protestant Irishman. Member of an organization which cherishes the memory of William Prince of Orange.

Orange Peel. Sir Robert Peel. Ordinance of 1787. An act fixing the overnment of the Northwest Territory of

government of th Orlando Furioso. An Italian poem by

Ossian. The son of Fingal, a Scotch bard. Ossian's poems, published in 1760, were the work of James Mc Pherson, a gifted Cal-

Ostend Manifeso. Was issued by the United States Ministers to England, France and Spain during Pierce's administration, declaring that Cuba must belong to the United States.

Ostracism. The Athenians expelled every public man against whom a sufficient number of votes were cust. The votes were written on oyster shells.

Palimpsest. A parchment having the original writing erased and new writing subtituted.

Pall Mall. A street in London.

Palladium. Is something that affords defence, protection and safety. A statue of Pallas was the palladium of Troy.

Pantheon. A circular building in Rome erected in the time of Augustus. It is now a church, the Rotonda.

Paradise Lost. A poem by John Milton treating of the fall of man.

Paradise Regained. Poem by Milton on the temptation and triumph of Jesus.

Paris of America, The. Cincinnati. Parthenon. A temple of Minerva in

Partington, Mrs. The American Mrs. Malaprop. The creation of B. P. Shillaber.

Pasquinade. A lampoon or satirical writing. Political squibs used to be posted on an old statue that stood in Rome near the house of a sneering old cobbler named Pasquin.

Peeler. A policeman. Su founded the Irish constabulary. Sir Robert Peel

Peninsular War. The war between En-gland and France in Spain and Portugal, 1808-1812.

People's William. William E. Gladstone. Pere-la-Chaise. A cemetery near Paris.

Philippic. An invective. The orations of Demosthenes against Philip of Macedon originated this word.

Philistine. A word in use in the German universities for a person below caste.

Philosopher's Stone, The. A substance supposed to have the property of turning anything else into gold.

Plon-Plon. Prince Napoleon J. C. Bona-

Plumed Knight, The. J. G. Blaine, American statesman.

Plymouth Rock. The rock at Plymouth, Mass., where the Pilgrims landed in 1620.

Poet's Corner. A corner in Westminster Abbey where poets are buried. The poetical column in a newspaper.

Pons Asinorum. (The bridge of asses.) Fifth proposition, first book Euclid's Geometry.

Poor Richard. Benjamin Franklin. Porkopolis. Cincinnati.

Prater, The. A promenade in Vienna,

Phonix. A mythical bird, without a mate, renews itself every five hundred years by being consumed in a fire of spices, whence it rises from the ashes and starts for a new

Pied Piper of Hamelin, The. Not being paid for having drawn, by the sound of his pipe, the rats and mice out of Hamelin into the river, he piped the children of the town into Koppelberg hill, where 130 of them

Pigeon English. A mixture of English, Chinese and Portuguese.

Protestant Duke. The. The Duke of Monmouth, natural son of Charles II. of England.

Pyramids. A number of remarkable old structures in Egypt.

Quaker City, The. Philadelphia, Pa. Quaker Poet, The. John G. Whittier. Quartier Latin. A district of Paris in-habited principally by students.

Queen of the Antilles. The island of Cuba.

Ranz des Vaches. The air the Swiss mountaineers play on the Alpine horns when tending their cattle.

Railway King, The. George Hudson,

Rebellion, The Great. The war between Charles I., of England, and Parlia-

Red Letter Day. A fortunate day. In old calendars a red letter was used to mark the saints' days.

Red Tape. Official routine.

Reign of Terror. The time during the French Revolution between the overthrow of the Girondists, May 31, 1793, and the fall of Robespierre, July 27, 1794.

Reynard the Fox. A romance of the fourteenth century.

Rialto, The. A bridge over the Grand Canal, Venice.

Rights, Declaration of. An instrument securing annual Parliaments, trial by jury, free elections, the right of petition, and denying to the crown the privilege of keeping a standing army or of levying taxes, was drawn up after the revolution of 1689, and accepted by William and Mary.

Roost, To Rule the. To take the leading part.

Robert the Devil. The first Duke of Normandy

Robin Goodfellow. Puck, a celebrated

Boland for an Oliver, A. Tit for tat. Roland and Oliver, two peers of Charlemagne. So many romances were related of these knights that, whenever one told an improbable story to match one that had been told before, it was called giving a Roland for an Oliver.

Rossius, The British. David Garrick.

Rough and Ready. Gen. Zachary

Round Robin. A petition or remonstrance signed by the names in a circle, so as to con-ceal who signed it first.

Round Table, The. King Arthur's knights sat at a round table so that any distinction of rank was avoided.

Roundheads. The Puritans, who wore

Royal Martyr, The. Charles I. of En-

Royal Society, The. A society for the advancement of natural science, founded at London, 1645.

Bozinante. The horse of Don Quixote. Rubicon, To Pass the. To take an irre-ievable step. When Casar crossed the trievable step. When Cæsar crossed the Rubicon he became an enemy of the Re-

Rule Britannia. An English song.

Rump Parliament, The. A remnant of the Long Parliament broken up by Cromwell.

Rye House Plot. A conspiracy in 1683 to assassinate Charles II. and the Duke of York. Rye House was the name of the conspirators' place of meeting.

Sabbath Day's Journey. About one

Sack, To Get the. To be discharged. The Sultan, when he wants to be rid of one of his haram, has her put into a sack and thrown into the Bosphorus.

Sadducees. A sect of the ancient Jews who denied the resurrection of the dead and the expectation of a future state.

Sagas. Scandinavian books containing

Saint Bartholomew, Massacre of.
Massacre of the French Huguenots in the
reign of Charles IX., on St. Bartholomew's
day, 1572.

Sailor King, The. William IV, of England.

Saint Cloud. A once famous French palace, destroyed in the Franco-Prussian war.

Saint James, The Court of. The English court, so called from the Palace of St. James in London, formerly a royal residence.

Saint Mark's. Cathedral of Venice. Italy.

Saint Paul's. The cathedral of London; designed by Sir Christopher Wren. Saint Peter's. At Rome; is the most splendid church building in the world.

Saint Sophia. A mosque in Constantino-

Saint Stephens. A Gothic cathedral in Vienna, Austria.

Salt River. Oblivion. Gone up Salt River is generally taken to mean political defeat.

Sambo. Nickname for colored man. Sanctum. One's private office.

Sandwich. A piece of meat between two pieces of bread.

Sang Azul. Of aristocratic descent.

Sanhedrim. The Jewish court of seventy

Sans Culottes. (Without trousers.) The French revolutionists.

Sans Souci. Palace of Frederick the Great, at Potsdam, near Berlin.

Santa Croce. A church in Florence, Italy, the burial-place of Michael Angelo, Galileo, Machiavelli and others.

Saturnalia. A festival in honor of Saturn observed annually by the Romans by giving way to the wildest disorders. Unrestrained license for all classes, even to the slaves, ruled the city for three days, December 17, 18 and 10.

Schoolmen. The mediæval theologians. Scotland Yard. The headquarters of the

London police. Scourge of God, The. Atilla, King of the Huns.

Scratch, Old. The Devil.

Scylla. (Avoiding Scylla he fell into Charybdis.) In trying to avoid one danger he fell into another. Scylla and Charybdis were the two dangers in the Straits of Messina, Italy.

Sea-girt Isle, The. Great Britain.

Secessia. The seceding Southern States. Secular Games. Games held by the Romans once in a century.

Semiramis of the North. Catherine II.. Empress of Russia.

September Massacres. The massacre of the French Royalist prisoners in Paris, September 2, 3 and 4, 1792. About 8,000 were killed.

Septuagint. A Greek version of the Old Testament prepared by seventy doctors.

Seven-hilled City, The. Rome.

Seven-Hilled City, The. Rome.

Seven Wonders of the World. The pyramids of Egypt; the Temple of Diana at Ephesus; the hanging gardens of Babylon; the Colossus at Rhodes; the Mausoleum at Halicarnassus; the statue of Zeus by Phidias at Olympus; and the Pharos (or light-house) of Alexandria in Egypt.

Seven Years' War. The war of Frederick the Great against France, Austria and Russia, 1756 to 1763.

Shamrock. The emblem of Ireland. St. Patrick made use of it to prove the doctrine of the Trinity.

Spanish Main. The southwestern part of the Gulf of Mexico.

Sphinx. An emblem of silence and mys-ery. A monument near Cairo, Egypt; half tery. A monume woman, half lion.

Stabat Mater. A Latin hymn on the

anistaken order, the British light cavalry, 670 strong, made a most gallant charge on the Russians.

Sleeping Beauty, The. A fairy tale.

Smell of the Lamp. A phrase first applied to the orations of Demosthenes, showing their careful and labored preparation. Demosthenes studied in a cave by lamplight.

Song of Roland. An old French poem ecounting the deaths of Oliver and Roland at Roncesvalles.

Shibboleth. A countersign. The password of a secret society. When the Ephraimites, after being routed by Jepthah, tried to pass the Jordan, they were detected by not being able to pronounce properly the word Shibboleth.

Sick Man, The. The Ottoman Empire. Sinews of War, The. Money.

Single-Speech Hamilton. An English statesman of the eighteenth century, W. G. Hamilton. He never made but one speech, but that one was most eloquent.

Stalwart. A member of the Republican party of the United States clinging to the principles and practices of the party. His opposite, a "Half-breed," is a Republican unwilling to be controlled by the party

Star Chamber. A court of criminal jurisdiction in England having extensive powers. It existed from the time of Henry powers. It existed from the VIII. until that of Charles I.

"Stonewall" Jackson. Gen. Thomas J. Jackson, Confederate General.

Strasburg Cathedral. At Strasburg; Gothic; 468 feet high; has a wonderful clock. Swedish Nightingale. Jenny Lind (now Mme. Goldschmidt).

Sorbonne, The. A university in Paris founded by Robert de Sorbonne in the thirteenth century.

Sortes Biblica. Fortune-telling by consulting the Bible.

South Kensington Museum. A collec-on of works of art and manufactures in

South Sea Bubble, The. A company formed in 1710 in England to pay the national debt and to have in return a monopoly of the South Sea trade. This company lasted about ten years, and its failure was the ruin of thousands.

word meaning consecrated; used for what is out of date or in bad taste.

Tammany Hall. A section of the Democratic party in New York City, named from their place of meeting.

Tammany Ring. Or the "Tweed Ring," or "the Ring." A set of New York City officials which absorbed large sums of the city money. Expected in 1821. city money. Exposed in 1871.

Tammany, Saint. Patron saint of the Democratic party in New York. He was an Indian chief, whose name was really Timenund.

Tapis, On the. On the carpet; proposed for discussion. From the tapis or cloth on a council table.

Temple Bar. A stone house in London over which the heads of traitors used to be exposed. Torn down in 1878.

Termagant. A shrew. Termagant was according to the Crusaders, the wife of Mahomet.

Terra Firma. Dry land.

Tertium Quid. A third somebody not to be named.

Theatre Francais. A theatre in Paris. Theleme, Abbey of. A creation of Rabelais in his Gargantua. Its motto was, "Do as you please."

Thirty Years' War, The. Between the Catholics and Protestants in Germany, 1618-

Thistle. The national emblem of Scotland. Thistle. The national emblem of Scotland. One night when the Danes were attempting to surprise an encampment of the Scotch, one of them trod upon a thistle; the pain caused him to raise an alarm, and the Scotch defeated them. Ever since the thistle is the institution of Scotland. defeated them. Ever insignia of Scotland.

Thor. Is the god of war, son of Odin, the Scandinavian Myth.

Threadneedle Street, The Old Lady f. The Bank of England.

Three Estates of the Realm. The nobility, the clergy and the commonalty; represented in the two houses of Parliament.

Thunderer, The. The London Times (newspaper).

Tick, On. On credit.

Tit for Tat. An equivalent: this for that. Tom Thumb. Charles A. Stratton. Also, a fairy tale.

Tory. The name of an English political party; opposite of Whig.

Tour, The Grand. From England through France, Switzerland, Italy, Germany and home.

Tower, The. The citadel of London.

Transfiguration, The. One of Raphael's most famous pictures, now in the Vatican. Trimmer. One who takes a moderate course in politics.

Trinity Church. An Episcopal church on Broadway at the head of Wall Street, New York. The richest church in America.

Triple Alliance, The. Alliance between Great Britain, Holland and Sweden against

rance, 1668.

Troubadours. Provincial poets from the eleventh to the fourteenth century.

Trouveres. Northern French poets 1100

Trumpet, To Sound One's Own. To boast. The entrance of knights into a list was announced by the heralds with a flourish of trumpets.

Tuft-hunter. A toady. At Oxford a nobleman was called a tuft because of the gold tuft on his college cap.

Tuileries. A French royal palace burned by the Commune in 1871.

Tulip Mania. A European craze of the seventeenth century centering in Holland. Everybody was buying tulip bulbs, which ran up to enormous prices. Many fortunes were sunk in their acquisition.

Tune the Old Cow Died of. Words instead of alms. Old song: a man having nothing with which to feed his cow, sings to her of the grass which is to grow. The expression is also used for a worn-out, tiresome tune.

Tyburn. Once a London place tion, now a wealthy and fashionable quarter called Tyburnia.

Uffizi. A building in Florence in which is a magnificent art collection.

Ultramontanes. In France, the more extreme adherents of the Pope.

Underground Railroad, The. Organization of the different means used for the es-cape of runaway slaves, about the middle of the present century.

Under the Rose. (Sub rosa.) Confi-

Unlicked Cub. An ill-bred boy. The bear cub was believed to be licked into shape by its dam.

Unter den Linden. As having four rows of lime trees. A street in Berlin

Unwashed, The Great. The mob.

Upas Tree. An object that does harm and should be avoided. The upas tree is common in Java; its gum is poisonous, and fable states that the atmosphere about it is

Up the Spout. Or more elegantly, "gone where the woodbine twineth," or "at my uncle's," means in pawn.

The Theoreand. The aristocracy;

Upper Ten Thousand. The aristocracy; onable society.

Utilitarians. Those who believe that the fitness of anything to promote happiness is the right standard of morality.

Utopia. An ideal commonwealth. The imaginary island, scene of Sir Thomas More's romance of Utopia.

Valhalla. The palace of immortality, where the heroes slain in battle dwell. (From the Saga legends.)

Vampire. An extortioner. A fabulous bat said to suck the blood of persons during

sleep.

Vatican. The palace of the Popes, Rome, Vatican, Council of the. The Œcume-ical Council, 1869, promulgated Papal infallibility.

Vedas, The. Revelations of Brahma in four sacred books.

Veni, Vidi, Vici. (I came, I saw, I conquered.) Phrase used by Julius Cæsar, announcing his victory at Zela.

Venus de Medici. A Greek statue at

Venus of Milo. A Greek statue found in the Island of Melos, 1820; it is now in the Louvre.

Verbum Sap. A word to the wise.

Veronica. A relic at St. Peter's, Rome. Versailles. A palace at Versailles, ten

miles from Paris.

Vespers, The Sicilian. The massacre of the French in Sicily, March 30, 1252. The sounding of the vesper bell was the signal.

Via Dolorosa. The sorrowful way of our Lord from the Mount of Olives to Golgotha.

Vinegar Bible, The. Has "vinegar" for "vineyard", in the head line of Luke xxii. Oxford, 1767.

Virgin Queen, The. Queen Elizabeth of

Vitus Dance, St. A disease anciently supposed to be under control of St. Vitus.

Wabash Avenue. A street in Chicago.

Wall of China, The. A wall 1,200 miles long and 20 feet high, built as a protection against the Tartars.

Wall Street. The great financial street of New York.

Wallack's. A theatre in New York.

Walton, An Izaak. An angler. Wandering Jew, The. A legendary personage condemned to wander over the world until the day of judgment.

War of 1812. Between Great Britain and the United States, 1812-1815.

War of the Roses. The English civil wars in the fourteenth and fifteenth centuries, between the houses of York and Lan-

Ward, Artemus. C. F. Browne.

Washington Street. A street in Boston,

Wassail. (What hail!) A bowl of spiced ale used on New Year's day is the Wassail bowl.

Waters, The Father of. The Mississippi.

Ways and Means. An important com-mittee of the House of Representatives; is charged with the duty of devising ways and means for the supply of the Government expenses.

Wedding. The first anniversary of a wedding is the paper wedding, the gifts being paper articles; the fifth, wooden; the tenth, in; the fittenth, glass; twenty-fifth, silver; fiftieth, golden; seventy-fifth, diamond.

Well of St. Keyne. A well in Cornwall. The first of a married couple to taste its waters will "wear the breeches."

Westminster Abbey. A church in London where many of the illustrious dead of England are buried.

Wetherell, Elizabeth. Pseudonym of Miss Susan Warner, author of The Wide, Wide World.

Whig. The name of a political party now extinct.

Whistle. (To pay too dearly for the whistle). Dr. Franklin's story. Cost greater than benefit.

White Feather, To Show the. A display of cowardice.

White House. The Presidential mansion at Washington.

Whiteboys. A secret society in Ireland,

Wild Huntsman, The. A spectral huntsman in the Black Forest. German le gend.

Windmills, To Fight with. To oppose imaginary objects. Don Quixote.

Windsor Castle. A royal residence near

Wise Men of the East, The. The three Magi guided by a star to Bethlehem.

Witch of Endor, The. The soothsayer who foretold the death of Saul.

Witch-Hazel. A forked twig used for finding witches; in use still for finding water.

Wooden Horse. A ruse at the siege of

Woolsack, To Sit on the. To be Lord Chancellor of England.

Wyoming Massacre. The Valley Wyoming was ravaged by Indians in 1778. The Valley of

Xanthos. The prophetic horse of Achilles. Xantippe. The scolding wife of Socrates.

Yahoo. A ruffian. The Yahoos in Gulliver's Travels are brutes shaped like men.

Yankee. A name given to all Americans. In America itself the name is only used for natives of New England.

Yarmouth Bloater. A red herring.

Yellow Jack. The yellow fever. Young America. The growing genera-

Young Chevalier. Charles Edward Stu-

art, the second pretender to the throne of Great Britain. (1720-88.) Young Germany. Heinrich Heine and

his followers.

Yosemite Valley. In California. Also a picture by Bierstadt.

Yule. Christmas.

Yule-log. A large log of wood burnt on the hearth at Christmas.

Zend-Avesta, The. Persian Scriptures written in the Zend language.

Zollverein. An association between German States for the maintenance of uniform tariff rates.





Including Sentences and Quotations from both Living and Dead Languages.

HILE it is not considered good form to interlard one's discourse with phrases culled from foreign languages, there are many cases wherein a

thought is more aptly and strikingly put in Latin or French than in English. When this

is the case it is certainly permissible to use the term which puts the idea in the best shape. It is also well to have at hand a comprehensive dictionary which will show at a glance just what a word, phrase or sentence in a foreign tongue means. The pages which follow contain the most complete lexicon of the kind ever published.

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A bas, F., down with.

Ab extra, L., from without.

Ab initio, L., from without.

Ab initio, L., from within.

Ab normis sapiens, L., wise without teaching.

Ab origine, L., from the origin.

Ab ovo, L., from the egg.

Absente reo, L., the accused being absent.

Ab uno disce omnes, L., from one judge all.

Ab urbo condita, L., from the founding of the city.

A corp's perdu, F., on account.

A corp's perdu, F., headlong.

Ad aberturam, L., at the opening.

Ad aberturam, L., at the opening.

Ad astra per aspera, L., to the stars through difficulties. (The motto of Kansas.)

Ad calendas Graccas, L., at the Greeks had no calends.

Ad calendas Graccas, L., at the Greeks had no calends.

Ad candem, L., to the same (degree).

Ad extremum, L., to the extreme.

Ad finem, L., to the end.

Ad infinitum, L., to infinity.

Ad interim, L., in the meantime.

Ad discretion, F., at discretion.

Ad literam, L., (even) to the letter.

Ad modum, L., atter the manner of.

Ad nauseum, L., to disgust.

Ad refferendum, L., for reconsideration.

Ad rem, L., to the point.

Ad vitam aut culpam, I., to life or for fault.

Æquo animo, L., with mind content.

Æquo animo, L., with mind content.

Æquis voimo, L., so his (or her) age.

Afaire de nour, F., a love affair.

Afaire de caur, F., a no affair of the heart.

A fortiori, L., for stronger reason.

A la campagne, F., as in the country.

A la Francaise, F., after the English (manner).

A la Francaise, F., after the English (manner).

A la mode, F., after the English (manner).

A la mode, F., after the fashion.

Alere fammam, L., to feed the flame.

Al friesco, It., in the open air.

Alis volat propriis L., she flies with her own wings. (The motto of Oregon.)

Aller vous en, F., begone.

Allons, F., come.

Amende honorable, F., an apology.

Amense et thoro, L., torothed and board.

Amor patria, L., patriotism.
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Amour propre, F., self-love.
 Ancien regime, F., the old rule.
Anglice, L., in English.
                                                                                                             prepared with
 Animis opibusque parati, L., prepared with our lives and our money. (Motto of South
our lives and our money. (Motto of South Carolina.)

Anno ætatis suæ, L., in the year of his (or her) age.

Anno Christi, L., in the year of Christ.

Anno Domini, L., in the year of our Lord.

Anno mundi, L., in the year of the world.

Annus mirabilis, L., the wonderful year.

Ante lucem, L., before the war.

Ante lucem, L., before the light.

Ante meridiem, L., before the light.

Ante meridiem, L., before the Ante meridiem, L., he fore noon.

A Poutrance, F., to the death.

Apercu, F., sketch.

Aplomb, F., firmly; perpendicularly.

A posteriori, L., reasoning from effect to cause.

A priori, L., reasoning from cause to effect.

A propos, F., to the point; by the by.

Ayua vita, L., water of life; alcohol.

Argumentum ad hominem, L., an argument to the man.
        Carolina.)
          rgumentum ad ignorantiam, L., an argument
 for the ignorant.

Argumentum ad baculum, L., an argument with a cudgel.

Arriere pensee, F., on after-thought.

Ars longa, vita brevis est, L., art is long, life is short.
 A teneris annis, L., from tender years.
  Audaces fortuna juvat, L., fortune favors the
        bold.
   Aude sapere, L., dare to be wise.
 Aude sapere, L., dare to be wise.
Audi alteram, L., hear the other side.
Au fait, F., expert.
Au fond, F., at the bottom.
Au fis aller, F., at the worst.
Aura popularis, L., the wind of public favor.
Aurea mediocritas, L., the golden mean.
Au reste, F., for the rest
Au revoir, F., till the next meeting.
Aussitot dit, aussitot fait, F., no sooner said than done.
Aut amat aut odit mulier, L., a wonan either
   Aut amat aut odit mulier, L., a woman either
         loves or hates
 loves or hates.

Aut Cæsar aut nullus, L., either Cæsar or nobody.

Auto da fe, Portuguese, an act of faith; burning a heretic.

Auto de se, L., suicide.

Au troisieme, F., on the third floor.
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Aut vincere aut mori, L., either to conquer or die.

Aux armes, F., to arms.

Avant-coureur, F., a preface.

Avant-propos, F., a preface.

Avec permission, F., with permission.

A vinculo matrimonii, L., from words to blows.

A vinculo matrimonii, L., from the bond of marriage.

A volonte, F., at pleasure.

A votre sante, F., to your health.

Bas bleu, F., a blue-stocking.

Beau ideal, F., an ideal beauty.

Beau monde, F., the fashionable world.

Beaux esprits, F., men of wit.

Beaux eyax, F., beautiful eyes.

Bel esprit, F., a brilliant mind.

Bete noir, F., a bugbear.

Bien seance, F., politeness.

Billet doux, F., a love-letter.

Bis dat qui cito dat, L., he gives twice who gives quickly.

Blase, F., surfeited.

Bon ami, F., good friend.

Bonhom, F., candy.

Bon gre mal gre, F., willing or unwilling.

Bonis avibus, L., with lucky omens.

Boni jour, good day.

Bonne foi, F., good faith.

Bon sor, F., good evening.

Brevi manu, L., immediately.

Brutum fulmen, L., harmless thunder.

Cacoethes loquendi, L., an itch for speaking.

Catera desunt, L., the remainder wanting.

Cateris paribus, L., other things being equal.

Candida pax, L., white-robed peace.

Caput, L., head.

Caput mortuum, L., the dead body.

Carpe diem, L., be merry to-day.

Cassis tulissima virtus, L., vitue is the safest shield.

Casus belli, L., a cause for war.

Catalogue raisonne, F., a topical catalogue.

Cousa sine qua non, L., an indispensable condition.

Cedant arma togæ, L., let arms yield to the gown.

Ce n'est que le premier par qui coute, F., the first step alone is difficult.

C'est a dire, F., that is to say.

Chacun a son gout, F., every man to his taste.

De fure, L., from the law; by right.
Delenda est Carthago, L., Carthage must be blotted out or destroyed.
De morinis nii nisi bonum, L., let nothing but good be said of the dead.
De nihilo nihil fit. L., of postion Chef, F., the head; the leading person part.
Chef de bataillon, F., a major.
Chef de cuisine, F., head cook.
Chef-d'auvre, F., a masternece.
Chere omie, F., a dear friend; a mistress.
Chevalier d'industrie, F., knight of industry; one who lives by his wits.
Chiaroscuro, It., distribution of light and shade in painting.
Cicerone, It., a guide who explains curiosities.
Cicisbeo, It., a male attendant on a married lady.
Ci-devant, F., formerly; heretofore.
Cogito, ergo sum, L., I think, therefore I exist.
Colubrem in sinn favere, L., to cherish a serpent in one's bosom.
Comme il faut, F., as it should be.
Compagnon de voyage, F., a traveling companion. Chef, F., the head; the leading person or Compagnon de voyage, F., a traveling com-panion.
Compos mentis, L., sound of mind.
Compte rendu, F., account rendered; report.
Comte, F., count.
Comtesse, F., countess. Comite, F., count.
Comtesse, F., countess.
Con amore, F., with love or great pleasure;
earnestly.
Con commodo, It., at a convenient rate.
Conditio sine qua non, L., a necessary condi-Confrere, F., a brother of the same monas-Confere, F., a prother of the same monastery; an associate.

Conge d'elire, F., leave to elect.

Conquiescal in pace, L., may he rest in peace.

Conseil de famille, F., a family consultation.

Conseil d'etat, F., a council of state; a privy hands. Constantia et virtute, L., by constancy and virtue.

Consuetudo pro lege servatur, L., custom is observed as law. Contra bonos mores, L., against good morals or manners.
Coram nobis, L., before us.
Coram non judice, L., before one not the proper judge.
Corps de gurde, F., a body of men who watch in a guard-room; the guard-room itself.
Corps diplomatique, F., a diplomatic body.
Corpus Christi, L., Christ's body.
Corpus delicti, L., the body, substance or foundation of the offence.
Corrupedul. L., corrections to be made. Contra bonos mores, L., against good morals Corregenda, L., corrections to be made.

Couleur de rose, F., rose-color; an aspect of beauty and attractiveness. Coup d'essai, F., a first attempt. Coup d'esai, F., a stroke of policy in state af-fairs. Coup de grace, F., the finishing stroke.

Coup de main, F., a sudden attack; a bold effort. effort.

Coup d'ail, F., a slight view; a glance.

Coup de theatre, F., a theatrical effect; claptrap.

Coule qu'il coule, F., let it cost what it may.

Credula res amor est, L., love is a credulous us live. affair. Crescite et multiplicamini, L., grow. or increase, and multiply. (The motto of Maryland.) Crimen læsæ majestatis, L., the crime of high treason. treason.

Cui bono? L., for whose benefit is it? what good will it do?

Cul de sac, F., the bottom of a bag; a place closed at one end.

Cum grano salis, L., with a grain of salt; with some allowance. Cum privilegio, L., with privilege. Currente calomo, L., with a running or rapid Custos retulorum, L., the keeper of the rolls. Da capo, It., from the beginning.
D'accord, F., agreed; in tune.
Damnani quod non intelligant, I.., they condemn what they do not understand.
De bonne grace, F., with good grace; willingly.

De bonne grace, F., with good grace; willingly.
De die in diem, L., from day to day.
De facto, L., from the fact; really.
Degage, F., easy and unconstrained.
Dei gratia, L., by the grace of God.
Dejeuner a la fourchette, F., a meat breakfast.

novo, L., anew; over again from the beginning.

Deo gratias, L., thanks to God.

Deo juvante, L., with God's help.

Deo, non fortuna, L., from God, not from fortune.

Deo volente, L., God willing; by God's will;

menally contracted into D.V. Deo volente, L., God willing; by God's will; usually contracted into D.V.
De profundis, L., out of the depths.
Dernier ressort, F., a last resource.
De bonis non, L., of the goods not administered on.
Degustibus non est disputandum, L., there is no disputing about tastes.
Desagrement, F., something disagreeable.
Desalerdum, L., a thing desired.
Desant catera, L., the other things are wanting; the remainder is wanting.
De trop, F., too much, or too many; not wanted.
Dies ire. L., the day of wrath. Dies ira, L., the day of wrath.

Dies non, L., in law, a day on which judges do not sit.

Dieu defend le droit, F., God defends the right.

Dieu et mon droit, F., God and my right.

Dignus vindice nodus, L., a knot worthy to be untied by such an avenger, or by such nands.

Dit penates, L., household gods.

Dit majores, L., the greater gods.

Dit minores, L., the lesser gods.

Dirigo, L., I direct or guide. (The motto of Maine.) Dirigo, L., I direct or guide. (The motto of Maine.)

Disjecta membra, L., scattered limbs or remains.

Distingue, F., distinguished; eminent.
Distrait, F., absent in thought.
Divertissement, F., amusement; sport.
Divide et impera, L., divide and rule.
Dolce far niente, It, sweet doing-nothing; sweet idleness.

Double entente, F., double meaning; a play on words; a word or phrase susceptible of more than one meaning. (Incorrectly written, double entender.)

Dramatis persone, L., the characters or persons represented in a drama.

Droit des gens, F., the law of nations.

Dulce donum, L., sweet home; homewards.

Dulce est desipere in loco, L., it is pleasant to jest or be merry at the proper time.

Dulce et decorum est pro patria mori, L., it is sweet and becoming to die for one's country.

Dum spiro, spero, L., while I breathe, I hope.

Dum vivimus, vivamus, L., while we live, let us live. Ean de Cologne, F., a perfumed liquid; Cologne water.

Ean de vie, F., water of life; brandy.

Ecce homo, L., behold the man. (Applied to a picture representing our Lord given up to the Jews by Pilate, and wearing a crown of thorns.)

Editio princeps, L., the first edition.

Egalite, F., equality.

Ego et rex meus, L., I and my king.

El dorado, Sp., the golden land.

Emigre, F., an emigrant.

Em pressement, F., ardor; zeal.

Em arriere, F., in the rear; behind.

Em attendant, F., in the meanwhile.

En avant, F., forward.

En deshobille, F., in undress.

En cchelon, F., in steps; like stairs.

En famille, F., in a domestic state.

En famille, F., in 5 of children; in mil., the forlorn hope.

En grande tenue, F., in full dress.

En masse, F., in passing; by the way.

En rapport, F., in relation; in connection.

En regle, F., in order; according to rules.

En route, F., in order; according to rules.

Ense petit placidam sub libertate quietem, F., with the sword she seeks quiet peace under liberty. (The motto of Massachusetts.)

En suite, F., in company.

Entente cordiale, F., evidence of good-will towards each other, exchanged by the chief persons of two states.

Entourage, F., surroundings; adjuncts.

Entout, F., in all; wholly.

Entree, F., entrance; first course at meals; freedom of access.

Entrepot, F., a warchouse; a place for depositing goods. Dositing goods.

Entre nous, F., between ourselves.

Entre sol, F., a suite of apartments between the basement or ground floor and the second floor.

n verite, F, in truth; verily.

pluribus unum, L., one composed of many.

(The motto of the United States, as one
government formed of many independent States.)

States.)

Errare est humanum, L., to err is human.

Esprit borne, F., a narrow, contracted mind.

Esprit du corps, F., spirit of the body; fellowship; brotherhood.

Esse quam videri, L., to be, rather than to seem. Esse quam viaers, L., to be, rather than to seem.

Esto perpetua, L., let it be perpetual; let it endure forever.

Est cutera, L., and the rest; etc.

Et hoc genus omne, L., and everything of the kind. Et sequentes, L., Et sequentia, L., and those that follow. that follow.

Et sic de cateris, L., and so of the rest.

Et tin, Brutel L., and thou also, Brutus!

Eureka, Gr., I have found it. (The motto of California.)

Ex adverso, L., from the opposite side.

Ex animo, L., with the soul; heartily.

Ex capile, L., from the bench, chair or pulpit; with high authority.

Excetsior, L., higher; more elevated. (The motto of New York.) motto of New York.

Exceptio probate regulam, L., the exception proves the rule.

Excepta, L., extracts.

Ex concessio, L., from what is conceded.

Ex curia, L., out of court.

Ex dono, L., by the gift.

Exempli gratia, L., for example; for instance.

Excunt, L., they go out.

Exitut, L., departure; a passage out; death.

Exitus acta probat, L., the event justifies the deed. (Washington's motto.)

Ex necessitate rei, L., from the necessity of the case. the case Ex nihilo nihil fit, L., out of nothing, nothing comes. Ex officio, L., by virtue of office. Ex parte, L., on one part or side only.

Ex pade Herculum, L., we see a Hercules from the foot; we judge the whole from the specimen. Experimentum crucis, L., the experiment of the cross; a decisive experiment; a most searching test.

Experto crede, L., trust one who has had experience.

Ex post facto, L., after the deed is done. Extempore, L., off-hand; without premeditation.
Extra muros, L., beyond the walls. Ex uno disce omnes, L., from one learn all; from one you can judge the whole.
Ex usu, L., from or by use.

Facetiæ, L., witticisms; humorous pleasantry.

Facile princeps, L., evidently pre-eminent; the admitted chief. the admitted chief.

Facilis est descensus Averni, L., the descent to hell is easy; the road to evil is easy.

Fac-simile, L., an exact copy; a likeness.

Fift accompli, F., a thing already accomplished. plished. as est et ab hoste doceri, L., it is well to learn even from an enemy.

Fata Morgana, It., a meteoric phenomenon mearly allied to the mirage.
Fata obstant, L., the Fates oppose it.
Fantenil, F., an easy chair.
Fanx pas, F., a false step; a mistake.
Fecit, L., he made it; put after an artist's name. Felicitas multos habet amicos, L., prosperity Felicitas multos habet amicos, L., prosperity has many friends.
Feliciter, L., happily; successfully.
Felo de se, L., a self-murderer; one who commits felony by suicide.
Femme converte, F., a woman covered or sheltered; a married woman.
Femme de chambre, F., a woman of the chamber; a chamber-maid.
Femme sole, F., a single woman; an unmarried woman. ried woman. Feræ naturæ, L., of a wild nature—said of wild beasts. wild beasts.

Festina lente, L., hasten slowly.

Fete champetre, F., a rural festival.

Fete Dieu, F., the Corpus Christi festival of
the Roman Catholic Church.

Fend de id. E. the Roman Catholic Church.
Feu de joie, F., a bonfire; a discharge of firearms on joyful occasions.
Fiat justifia, rnat cælum, L., let justice be
done, though the heavens should fall.
Fidei defensor, L., defender of the faith.
Fides Punica, L., Punic faith; treachery.
Fidus Achales, L., faithful Achates; a true
friend.
Fille de chambre, F., a girl of the chamber; a
chamber, maid. chamber, and chamber; a chamber; a chamber maid.

Finem respice, L., look to the end.

Fit fabricando faber, L., a workman is made by working; practice makes perfect.

Flagrante delicto, L., in the commission of ćřime. Fortuna favet fortibus, F., fortune favors the Fortuna javes forseas, ..., brave.
Fronti nulla fides, L., no faith in appearance; there is no trusting to appearances.
Fuil llium, L., Troy has been.
Fullmen brutum, L., a harmless thunderbolt.
Functus officio, L., having discharged his office. office.

Furor loquendi, L., a rage for speaking. Furor poeticus, L., poetic fire. Furor scribendi, L., a rage for writing. Garde du corps, F., a body-guard. Garde mobile, F., a guard liable for general service.

Gardez bien, F., guard well; take care.

Genius loci, L., genius of the place.

Gens d'armes, F., armed police.

Gens de lettres, F., literary people.

Gens de meme famille, F., birds of a feather.

Gentilhomme, F., a gentleman.

Germanice, L., in German.

Gloria in excelsis, L., glory to God in the highest. highest.

Gloria Patri, L., glory to the Father.

Gradus ad Parnassum, L., a step to Parnassus, a mountain sacred to Apollo and the Muses; a book containing aids in writing Greek or Latin poetry.

Grande parure, F., full-dress.

Gratis dictum, L., mere assertion.

Guerre a Poutrance, L., war to the uttermost. Hand passibus aquis, L., not with equal steps steps.

Hant gout, F., fine or elegant taste; high flavor or relish.

Hic et ubique, L., here and everywhere.

Hic facet, L., here lies.

Hic labor, hoc opus est, L., this is labor, this is reached. is work Ilic sepultus, L., here buried.

Iline illæ locrimæ, L., hence proceed these tears.
Historiette, F., a little or short history; a tale.
Hoi polloi, Gr., the many; the rabble.
Hombre de un libro, Sp., a man of one book.
Houms d'esprit, L., a man of talent; a witty man.

Honi soit qui maly pense, F., evil be to him who evil thinks.

Honorarium, L., a fee paid to a professional

Horribile dictu, L., terrible to be said. Hors de combat, F., out of condition to fight. Horsus siccus, L., collection of dried plants. Hotel de ville, F., a town hall. Hotel des Invalides, L., the military hospital in Parie Humanum est errare, L., to err is human. Ich dien, Ger., I serve.
Id est, L., that is-abbreviated to i.e.
Imitatores servum pecus, L., imitators; a servile herd. Imperium in imperio, L., a government with-Imperium in imperio, L., a government within a government.

In aleranum, L., forever.

In armis, L., under arms.

In articulo mortis, L., at the point of death.

Index expurgatorius, L., a list of prohibited books.

In esse, L., in being.

In extenso, L., at full length.

In strems, L., at the point of death.

In flagrante delictu, L., taken in the act.

In forma pauperis, L., in the form of a poor person. person.
In foro conscientia, L., before the tribunal of In foro conscientia, L., before the tribunal of conscience.

Infra dignitatem, L., below one's dignity.

In hoc signo vinces, L., under this sign, or standard, thou shalt conquer.

In hoc statu, L., in this state or condition.

In limine, L., at the threshold.

In loco, L., in the place.

In loco parentis, L., in the place of a parent.

In medias res, in the midst of things.

In memoriam, L., to the memory of; in memory. ory. In nomine, L., in the name of, In nomine, L., in the name of.
In nubibis, L., in the clouds.
In place, L., in peace.
In perpetuum, L., forever.
In pleno, L., within the breast; in reserve.
In pleno, L., in full.
In passe, L., in possible existence; that may be possible.
In presenti, L., at the present time.
In propria persona, L., in one's own person.
In puris naturalibus, L., in naked nature; quite naked. In puris naturalibus, L., in naked nature; quite naked.

In re, L., in the matter of.

In re, L., against the thing or property.

In rerm, L., against the thing or property.

In seitu, L., in its original situation.

Insouciance, F., indifference; carelessness.

In statu quo, L., in the former state.

Inter alia, L., among other things.

Inter nos, L., between ourselves.

Inter pocula, L., between drinks.

In terrorem, L., as a warning.

Inter se, L., among themselves.

In totidem verbis, L., in so many words.

In totidem verbis, L., in the whole; entirely.

Intra muros, L., within the walls.

In transitu, L., on the passage; during the conveyance. In transitu, L., on the passes, conveyance, In vacuo, L., in empty space; free, or nearly free, from air.
In vino veritas, L., there is truth in wine.
Invita Minerva, L., against the will of Minerva.
f/se d/xit, L., he himself said it; dogmatism.
f/seissima verba, L., the very words.
f/sissimis verbis, L., in the very words.
f/so facto, L., in the fact itself. Ira furor brevis est, L., anger is a short mad-Jacta est alea, L., the die is cast. Je ne sais quoi, F., I know not what. Jet de cau, F., a jet of water. Jeu de mots, F., a play on words; a pun. Jeu d'esprit, F., a play of spirit; a witticism. Jubilate Deo, L., be joyful in the Lord. Judicium Dei, L., the judgment of God. Jupiter tonans, L., Jupiter the thunderer. Jure divino, L., by divine law. Jure humano, L., by human law. Jus canonicum, L., canon law. Jus civile, L., civil law. Jus divinum, L., divine law. Jus gentium, L., the law of nations.

Labore et honore, L., by labor and honor.
Labor ipse voluptus, L., labor itself is a
pleasure.
Labor omnia minete. thing.

La fame non vuol leggi, It., hunger obeys no laws. Laisses faire, F., let alone; suffer to have its own way.

Lapsus linguae, L., a slip of the tongue.

Lapsus linguae, L., a slip of the tongue.

Lapsus memorie, L., a slip of the memory.

Lares et penates, L., domestic and household gods.

Latet anguis in kerba, L., a snake lies hid in the orass. Latet anguis in kerda, L., a snake lies hid in the grass.

Landari a viro landata, L., to be praised by a man who is himself praised.

L'avenir, F., the future.

Lans Deo, L., praise to God.

Le brau monde, F., the fashionable world.

Le bon temps viendra, F., the good time will come. Le grand monarque, F., the great monarch applied to Louis XIV, of France, applied to Louis AIV, of France, Le pas, F., precedence in place or rank. Le roi le veut, F., the king wills it, Lesse majeste, L., high treason. L'etoile du nord, F., the star of the north— the motto of Minnesota. Le tout ensemble, F., all together. Lettre de cachet, F., a scaled letter; a royal warrant. Lettre de marque, F., a letter of marque or reprisal. reprisal.

Lex non scripta, L., the unwritten law.

Lex scripta, L., the written law; the statute law.

Lex talionis, L., the law of retaliation.

Liberum arbitrium, L., free will.

Lima labor, L., the labor of the file; the slow polishing of a literary composition.

Lis sub judice, L., a case not yet decided.

Lite pendente, L., the law-suit hanging; during the trial.

Litera scripta manet, L., the written letter remains. Litera scripta manet, L., the written remains.
Loci communes, L., common places.
Locosy ninos dizen la verdad, Sp., children and fools speak the truth.
Locum tenens, L., one holding the place; a deputy or substitute.
Locus standi, L., a place for standing; a right to interfere.
Locus penitentia, L., place for repentance.
Lusus nature, L., a sport or freak of nature. Ma chere, F., my dear-fem.
Ma fois, F., upon my faith.
Magna est veritas et prevalebit, L., truth is
great and it will prevail.
Magnum bonum, L., a great good.
Magnum opus, L., a great work. Magnum opus, L., a great work.
Maintien, F., deportment; carriage.
Maison de sante, F., a private hospital.
Maitre d'hotel, F., a house-steward.
Malade du pays, F., home-sickness.
Mala fide, L., with had faith; treacherously.
Mal a propos, F., ill-timed.
Male paria male dilabuntur, L., things ill gotten are ill spent.
Malgre nous, F., in spite of us.
Manibus pedibusque, L., with hands and f.et.
Maum in se. L., bad in itself.
Manu propria, L., with one's own hand.
Mardi Gras, F., Shrove Tuesday.
Materfamilias, L., the mother of a family,
Mauvaise house, F., false shame.
Manvais sujet, F., a bad subject; a worthless fellow. fellow.

Maximus in minimis, L., very great in trifling things.

Medio Intissimus ibis, L., you will go most safely in a middle course.

Mega biblion, mega kakon, Gr., a great book is a great evil.

Me judice, L., I being judge; in my opinion.

Memento mori, L., remember death.

Mens sona in corpore sano, L., a sound mind in a sound body.

Mens sibi conscia recti, L., a mind conscious of rectitude.

Mens agitat molem, L., mind moves matter.

Menu, F., a bill of fare.

Mesalliance, F., improper association; marriage with one of lower station.

Menum et tunm, L., mine and thine.

Mirabile dicts, L., wonderful to be told.

Mirabile visu, L., wonderful to be seen.

Mise en scene, F., the getting up for the stage, or the putting in preparation for it.

Modus operandi, L., the manner of operation.

Mollia tempora fandi, L., times favorable for speaking. speaking.

Mon ami, F., my friend.

Mon cher, F., my dear—masc.

Montani semper liberi, L., mountaineers are always freemen—the motto of West Virginia. ginia.

More majorum, L., after the manner of our Alore majorum, L., after the manner of our ancestors.

More suo, L., in his own way.

Moth proprio, L., of his own accord.

Multum in parvo, L., much in little.

Mundus vult decipi, L., the world wishes to be deceived. Mutatis mutandis, L., the necessary changes being made. Natale solum, L., natal soil. Necessitas non habet legem, L., necessity has no law.

Nee, F., born, family or maiden name.

no law.

Nee, F., born, family or maiden name.

Nee xeal, L., let him not depart.

Ne fronti crede, L., trust not to appearance.

Nemine contradicente, L., without opposition.

Nemine dissentiente, L., no one dissenting;

without opposition.

Nemo me impune lacessit, L., no one provokes

me with impunity—the motto of Scotland.

Nemo mortanum omnibus horis sapit, L., no

one is wise at all times.

Nemo repente fuil turpissimus, L., no man becomes a scoundrel at once.

Ne plus ultra, L., nothing further.

Ne suid detriments respublica capias, L., lest

the republic should receive harm.

Ne sutor ultra crepidam, L., let the shoemaker stick to his last.

Nil admirari, L., to wonder at nothing.

Nil desperandum, L., never despair.

N'importe, F., never mind.

Nisi dominus, frustra, L., unless the Lord

helps, nothing is gained.

Nisi prius, L., unless previously.

Nitor in adversam, L., 1 strive against op
position.

Nobless oblige, F., nobility obliges; nobles Nitor in adversum, L., position.

position.

Noblesse oblige, F., nobility obliges; nobles must act nobly.

Nolens volens, L., willy-nilly.

Noli me tangere, L., don't touch me; hands off.
Nolle prosequi, L., to abandon prosecution.
Nolle prosequi, L., I am unwilling to be a
Bishop. Nom de guerre, F., a war name; an assumed

name.

Nom de plume, F., a pen-name; name assumed by an author.

Non compos mentie, L., not in one's right on compos mentis, L., not in one's right

Mon constat, L., it does not appear.

Non est inventus, L., he has not been found.

Non multa, sed multum, L., not many things, but much.

but much.

Non nobis solum, L., not for ourselves alone.

Non mi ricordo, It., I do not remember.

Noscitur a sociis, L., he is known by his companions.

Nota bene, L., markwell.

Nons. acyons change tout cela, F., we have changed all that.

Nous verons, F., we shall see.

Nunquam non paratus, L., never unprepared.

Oderint dum meturant, L., let them hate, pro-Oderins dum meturant, L., let them nate, provided they fear.
Odi profonum, L., I hate the vulgar.
Odium theologicum, L., theological hatred.
Olla podrida, Sp., a mixture.
Omne ignotum pro magnifico, L., everything unknown is thought magnificent.
Omnia vincit amor, L., love conquers all things. things.
On dit, F., they say; people say.

Onus probandi, L., the burden of proof.
Ora pro nobis, L., pray for us.
Otemporal O mores! L., oh, the times! oh, the manners. Otium cum dignitate, L., ease with dignity. Outre, F., extravagant; extreme.

Palmam qui meruit ferat, L., who merits bears the prize.
Par excellence, F., by way of eminence; in the highest degree.
Par hasard, F., by chance.
Pari passu, L., with equal step.
Parvenu, F., an upstart; a rich "snob."
Pater familias, L., the father of a family.
Pater patrie, L., the father of his country.
Paux vobiscum, L., peace be with you.
Peccavi, L., I have sinned.
Perdente lite, L., while the suit is pending.
Per annum, L., by the year.
Per contra, L., on the other hand.
Per diem, L., by the day; every day.
Personned, F., the staff; persons in any service.
Petitio principii. L., begging the question. vice.

Petitic principii, L., begging the question.

Petitic, F., small; little-fem.

Piece de resistance, F., a joint of meat.

Pisarii, L., he (or she) painted it.

Pisaller, F., a last expedient.

Plebs, L., the common people.

Poeta nascitur, non fit, L., a poet is born, not made. made.

Point d'appui, F., point of support.

Populus vult decipi, L., the populace wish to be deceived. Posse comitatus, L., the power of the country; the force that may be summoned by the sheriff.

Poste restante, F., to be left till called for. Post meridiem, L., afternoon.
Post mortem, L., after death.
Post observed.
Post observed.
Post observed.
Post parler, F., a consultation.
Pour prendre conge, F., to take leave.
Preciouse, F., a blue stocking; a concelted woman. woman.

Prima chevalier, F., a gallant gentleman.

Prima donna, It., the first lady; the principal female singer in Italian opera.

Prima facie, L., on the first face; at first sight.

Primus inter faces, L., first among his peers. sight.

Primus inter fares, L., first among his peers.

Pro bono publice, L., for the public good.

Proces verbal, P., verbal process; the taking of testimony in writing.

Pro et con, L., for and against.

Pro forma, L., for the sake of form.

Pro patria, L., for one's country.

Pro lempore, L., for the time.

Punica fides, L., Punic faith, i.e., treachery.

Quantum sufficit, L., as much as is sufficient. Quelque chose, F., something.
Quid nune, L., what now, a gossip.
Quid pro quo, L., an equivalent.
Qui vive, F., who goes there?
Quod erad demonstrandum, L., which was to be demonstrated. Quondam, L., at one time; once.

Rara avis, L., a rare bird. Rechauffe, F., warmed over; st Recherche, F., choice; elegant. Redacteur, F., an editor. Redivivus, L., restored to life,
Reductio ad absurdum, L., reduction to an absurdity.

Rentes, F., public funds; national securities.

Requiescat in pace, L., may he (or she) rest in peace.

Res angusta domi, L., the narrow things at home; poverty. Res angusta domi, L., the narrow thing home; poverty.
Res gestæ, L., things done.
Resurgam, L., I shall rise again.
Revenons a nos moutons, F., let us return our sheep; come back to the subject.
Robe de chambre, F., a dressing-gown.
Roue, F., a rake.
Rouge et noir, F., red and black; a game. let us return to

Sanctum sanctorum, L., the holy of holies. Sang froid, F., cold blood; self-possession. Sans culottes, F., without breeches; red re-publicans Sans culottes, F., without breeches; red republicans.
Sartor resartus, L., the tailor patched.
Sauve qui peut, F., save himself who can.
Savoir vivre, F., knowing how to do things.
Savoir vivre, F., knowledge of the world.
Semper idem, L., always the same.
Semper paratus, L., always prepared.
Sequitur, L., it follows.
Seriatim, L., it follows. Sic itur ad astra, L., thus the road to immortality.

Sic semper tyrannis, L., thus always with tyrants.

Sic transit gloria mundi, L., so passes the glory of the world.

Sic volo, sic jubeo, L., thus I will; thus I command. Similia similibus curantur, L., like things are cured by like.

Similis simili gaudel, L., like is pleased with like.

Simonumentum queeris, circumspice, L., if you seek his monument, look around.

Sine die, L., without a day appointed.

Sine qua non, L., an indispensable condition.

Siste, viator, L., stop, traveler.

Si vis pacem, para bellum, L., if you wish peace, prepare for war.

Soi disant, F., self-styled.

Spero meliora, L., I hope for better things.

Spirituel, L., intellectual; witty.

Spoils opima, L., in ancient time, the spoils of a vanquished general taken by the victorious general; a rich booty.

Sponte sua, L., of one's own accord.

Statu quo ante bellum, L., in the state which was before the war.

Status quo, L., the state in which.

Stef, L., let it stand.

Suaviter in modo, fortiter in re, L., gentle in manners, brave in deed.

Sub judice, L., under consideration.

Sub pana, L., under a penalty.

Sub rosa, L., privately.

Sub silentio, L., in silence or stillness.

Sui generis, L., of its own kind.

Summum bonum, L., the chief good.

Summum jus, summa injuria, L., the rigor of the law is the height of oppression.

Surgit amari aliquid, L., something bitter arises.

Suum cuique, L., let each have his own. cured by like. Similis similis gaudet, L., like is pleased with

Tableau vivani, F., the representation of some scene by groups of persons.
Tabula rasa, L., a smooth or blank tablet.
Tadium vita, L., weariness of life.
Tant pis, F., so much the worse.
Te Deum, L., a hymn of thanksgiving.
Tempora mutantur, et nos mutamur in illis,
L., the times are changed and we are changed with them.
Tempus fugit, L., time flies.
Terminus ad quem, L., the time to which.
Terminus ad quem, L., the time to which.
Terra incognita, L., an unknown country.
Tertium quid, L., a third something.
Tette-a-tete, F., head to head; a private conversation.
Toga virilis, L., the gown of manhood.
To kalon, Gr., the beautiful; the chief good.
Totidem verbix, L., in just so many words.
Totics quoties, L., as many as.
Toto calo, L., by the whole heavens; diametrically opposite.
Toujours pret, F., alvays ready.
Tout a-fait, F., entirely; wholly.
Tout ensemble, F., the whole taken together.
Troif juil, L., Troy was.
Trottor, F., a sidewalk.
Tu quoque, Brutel L., and thou, too, Brutus!
Tutur est, L., it is your own.

Ubl mel, ibi apes, L., where honey is, there

Suum cuique, L., let each have his own.

Ubi mel, ibi apes, L., where honey is, there are bees.

Ultima ratio regum, L., the last argument of kings; war.

Ultima Thule, L., the utmost boundary or limit.
Un bien fait n'est jamais perdu, F., a kindness Un fait accompli, L., an accomplished fact.

Unguibus et rostro, L., with claws and beak. Usque ad nauseam, L., to disgust.

Usus loquendi, L., usage in speaking.
Utile dulci, L., the useful with the pleasant.
Ut infra, L., as below.
Uti possidetis, L., as you possess; state of present possession.
Ut supra, L., as above stated.

Vade mecum, L., go with me. Vale, L., farewell. Valet de chambre, F., an attendant; a foot-

man.
Variae lectiones, L., various readings.
Variorum nola, L., the notes of various authors.
Veni, vidi, vici, L., 1 came, I saw, I conquered.
Vera pro gratiis, L., truth before favor.

Verbatim et literatim, L., word for word and letter for letter. Verbum sat sapienti, L., a word is enough for a wise man.

a wise man.

Veritas prevalebit, L., the truth will prevail.

Veritas vincit, L., truth conquers.

Vestigia, L., tracks; vestiges.

Vestigia nulla retrorsum, L., no footsteps
backward.

backward.

Vexata quaestio, L., a disputed question.

Vice, L., in the place of.

Vice versa, L., the terms being exchanged.

Videliest, L., to wit; namely.

Vide ut supra, L., see what is stated above.

Viet armis, L., by force and by arms; by main force.

main force.
Vincil qui se vincil, L., he conquers who overcomes himself.
Vinculum matrimonii, L., the bond of mar-

riage.

Virtus landatur, et alget, L., virtue is praised, and is not cherished (is starved).

Virtus semper viridis, virtue is ever green and blooming.

Vis inertia, L., the power of inertia; resist-

ance. Vivat regina! L., long live the queen! Vivat rex, L., long live the king.
Viva voce, L., by the living voice; by oral
testimony.

Vivat respublica! L., long live the republic!

Vive la republique! E., long live the republic!
Vive la republique! F., long live the republic!
Vive l'empereur! F., long live the emperor!
Vive le roi! F., long live the king!
Voila, F., behold; there is or there are.
Volens et potens, L., able and willing; motto

Volente Deo, L., God willing.
Volente Deo, L., God willing.
Volenti non fit injuria, L., no injustice is done
to the consenting person.
Vox et pratera nihil, L., a voice and nothing

Vox et pratera vinit, L., a voice and nothing more; sound without sense.

Vox populi, vox Dei, L., the voice of the people is the voice of God.

Vulgo, L., commonly.

Vultus est index animi, L., the face is the index of the mind.

dex of the mind.



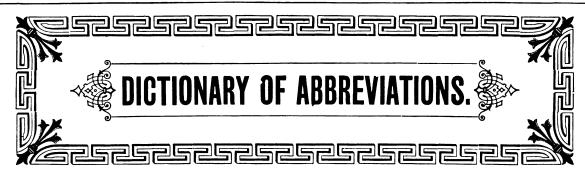


AMETHYST, PEACE OF MIND. Regarded by the ancients as having the power to dispel drunkenness. BLOOD-STONE, I MOURN YOUR ABSENCE. Worn by the ancients as an amulet or charm, on account of the medicinal and magical virtues it was supposed to possess. DIAMOND, PRIDE. Awarded supernatural qualities from the most remote period down to the Middle Ages. Has the power of making men courageous and magnanimous. Protects from evil spirits. Influences the gods to take pity upon mortals. Maintains concord between husband and wife, and for this reason was held as the most appropriate stone for the espousal ring. EMERALD, success in Love. Mentioned in the Bible as worn in the breast-plate of the High Priest as an emblem of chastity.

RUBY, A CHEERFUL MIND. An amulet against poison, sadness, evil thoughts. A preservative of health. Admonishes the wearer of impending danger by changing color. SAPPHIRE, CHASTITY. Procures favor with princes. Frees from enchantment. Prevents impure thoughts. TOPAZ, FIDELITY. Calms the passions. TURQUOISE. success and happiness. Preserves from contagion. GARNET. FIDELITY IN EVERY ENGAGEMENT. ONYX, RECIPROCAL LOVE. OPAL, PURE THOUGHTS.

PEARL, PURITY AND INNOCENCE.





MILY is the use of abbreviations increasing in America. The demand for continual short-cuts in writing as well as in everything else has built a great number of logogriphs, which without a comprehensive glossary must be often unintelligible. Below will be found all the abbreviations in good English usage.

In commerce, to. a. In commerce, at. A.A.G. Assistant Adjutant-General.
A.A.P.S. American Association for the Promotion of Science.
A.A.S. Academie Americane Socius, Fellow of the American Academy (of Arts and Sciences).

ences).
A.A.S.S. Americanæ Antiquarianæ Societatis Socius, Member of the American Antiquarian

of the American Antiquarian Society, A.B. Artium Baccalaureus, Bachelor of Arts. A.B.C.F.M. American Board of Comissioners for Foreign Mis-

sions.
Abp. Archbishop.
Abr. Abridgment,
Abr. Abridgment,
Abr. Abrivation,
A.B.S. American Bible Society.
A.C. Ante Christum, before
Christ; Arch-Chancellor.
Acad. Academy.
Acct. Account; Accent.
A.C.S. American Colonization
Society.

Society

Society.
A.D. Anno Domini, in the year of our Lord.
A.D.C. Aide-de-camp.
Ad. Advertisement.
Adj. Adjective.
Adjt. Adjutant.
Adj. Adjutant.
Adj. Holsen. Adjutant-General.
Ad lib. Ad libitum, at pleasure.
Adm. Admiral; Admiralty.
Adm. Ct. Admiralty Court.
Adm. Administrator.
Admx. Administrator.
Admx. Administrativ.
Adv. Advalorem, at (or on) the value.

value. Adv. Adverb; Advent; Advertisement

tisement.

Æt. Ætatis, of age; aged.

A.F.&A.M. Ancient Free and
Accepted Masons.

A.F.B.S. American and Foreign
Bible Society.

A.G. Adjutant-General.

A.G. Agriculture.
A.G.S.S. American Geographical and Statistical Society. Agt. Agent. A.H. Anno Hegira, in the year

A.H. Anno Hegira, in the year of the Hegira.

A.H.M.S. American Home Missionary Siciety.

Ala. Alabama.

Ald. Alderman.

A.L. of H. American Legion of

Ald. Alderman.
A.L. of H. Amer
Honor.
Alex. Alexander.
Alg. Algebra.
Alt. Altitude.

Amm. Amalgama, Amalgamation.

Am. Amno, In the year.

An.A.C. Anno ante Christum, in the year before Christ.

An. An. Ancient; anciently.

And. Ancient; anciently.

And. Ancient; anciently.

And. Andrew.

Ang. Sax. Anglo-Saxon.

Anon. Anonymous.

Ans. Answer.

Ant. Anthony.

Ant. Anthony.

Aor. or aor. Aorist.

A.O.S.S. Americana Orientalis Societatis Societas, Member of the American Oriental Society.

A.O.U.W. Ancient Order of United Workmen.

Ap. Aposte; Applus.

Ap. Aposte; Applus.

Ap. Apode; Applus.

Apo. Apogee,

Apo. Apogee,

Apo. Apogendix.

Apr. April.

A.Q.M.G. Assistant Quartermaster-General

A.R. Anna Regina, Queen Anno regni, year of the reign.

Arab. Arabic, or Arabia, A.R.A. Associate of the Royal Academy.

Arab. Arabic, or Arabia.

Ariz. Ter. Arizona Territory.

Arg. Argumento, by an argument drawn from such a law. ment drawn from such a law.
Aith. Arithmetic.
Ark. Arkansas.
A.R.R. In the year of the reign
of the king.
A.R.S. Fellow of the Royal
Society of Antiquaries.

.M. Anno mundi, In the year of the world; Artium Mag-ister, Master of Arts; Ante meridiem, Before noon, morn-

ing. Amb. Ambassador. (See Emb.) Amer. American. AMM. Amalgama, Amalgama-

tion.

Art. Article.
A.S. or Assist. Sec. Assistant Secretary.
A.S.A. American Statistical Association.

sociation.
Asst. Assistant.
Asst. Surg. Assistant Surgeon.
A.S.S.U. American SundaySchool Union.
Astrol. Astrology.
Astron. Astronomy.
A.T. Arch-Treasurer.
A.T.S. American Tract Society.
Ats. At suit of.
Atty. Attorney.
Atty.-Gen. Attorney-General.

A.U.A. American Unitarian Association, Aub. Theol. Sem. Auburn Theo-

Auh. Theol. Sem. Auburn Theological Seminary.
A.U.C. In the year of Rome.
Aug. August.
Aur. Gold, Aurum.
Auth. Ver. Authorized version
(of the Bible).
Av. Average: Avenue.
Avoir Avoirdupois.
A.Y.M. Ancient York Masons.
b. Born.

A.Y.M. b. Born. Ba

A.Y.M. Ancient York Masons. b. Born.
B.A. Bachelor of Arts.
B.A. British America.
Bal. Balance.
Balt. Baltimore.
Bart. Barrel; Barleycorn.
Bart. or Bt. Baronet.
Bbl. Barrel.
B.C. Before Christ.
B.C. Bachelor of the Classics,
B.C.L. Bachelor of Civil Law,
B.D. Bachelor of Divinity,
Bd. Bound,
Bds. or bds. Boards (binding),
B.E. Bachelor of the Elements,
Benj. Benjamin.
Bk. Book,
B. Lit. Bachelor of Letters.
B.Ll. Bachelor of Laws,
Bl., Bls. Barrel, Barrels,
B.M. Bachelor of Medicine.
B.Mus. Bachelor of Medicine.
B.Mus. Bachelor of Music,
Barrels, Barrels,
Barrels, Barrels,
Barrels, Barrels,
Barrels, Barrels,
B.M. Bachelor of Medicine.
B.Mus. Bachelor of Music,
Barrels, Barrels,
Barrels, B

B. Mus. Bachelor of Music.
Bor. Borough.
Bost. Boston.
Bot. Botany.
Bp. Bishop.
B.R. The King's or Queen's
Bench.

B.R. The King's or Queen's Hench.
Brig. Brigade; Brigadier. Brig. Gen. Brigadier-General.
Brit. British; Britain.
Brit. Mus. British Museum.
Bro., Bros. Brother, Brothers,
Br. Univ. Brown University.
Brussels.
B.S. Bachelor of Science.
Bu., Bush. Bushel.
B.V. Blessed Virgin.
B.V. Farewell.
B.V. M. Blessed Virgin Mary.
C., Ch. or Chap. Chapter; Consul.
C. or Cent. A hundred, Centum.
C.A. Commercial Agent.
Cat. par. Other things being

cæt. par. Other things being equal, Cæteris paribus.
Cad. Eng. Cadet Engineer.
Cal. California; Calends; Cal-

Cal. California; Calends; Calendar.
Cam. Cambridge.
Can. Canon; Canada.
Cant. Canticles.
Cap, or c. Chapter, Caput, captulum.
Caps. Capitals.

Capt. Captain.
Capt.-Gen. Captain-General.
Card. Cardinal.
C.A.S Fellow of Connecticut
Academy, Conn. Academia Socius.
Cash. Cashier.
ca. resn. ca. sa. A legal writ.

Cas. resp., ca. sa. A legal writ.
Cath. Catholic.
Cath. Inst. Catholic Institute.
C.B. Companion of the Bath.
C.B. Common Bench.
C.C. County Clerk; County

Commissioner.
C. Caius College; Account C.C. Caius Conege, Current. C.C. Chancellor Commander;

Curren.
C.C. Chancellor
Consular Clerk.
C.C.C. Corpus Christi College.
C.C.P. Court of Common Pleas.
C.E. Civil Engineer; Canada

C.C.P. Court of Common Pleas, C.E. Civil Engineer; Canada East.
Cel. or Celt. Celtic.
Cen. Century; Centennial.
Cf., or cf. Compare, Confer.
C.G. Commissary-General; Ccnsul-General.
C.G.S. Commissary-General of Subsistence.
C.H. Court-house.
Ch. Church; Chapter; Charles; Chaldron.
Chamb. Chamberlain.
Chanc. Chancellor.
Chap. Chapter; Chaplain.
Chas. Charles,
Chem. Chemistry.
Chf. E. Chuef Engineer.
Chf. Con. Chief of Construction.
Chf. Med. Pur. Chief Medical Purveyor.

Chf. Con. Chief of Construction. Chf. Med. Pur. Chief Medical Purveyor, Chf. Ord. Chief of Ordance. Chr. Christopher. Chron. Chronicles. Cin. Cincinnati. C.J. Chief Justice. Cl. Clergyman. Cld. Cleared. Clk. Clerk. C.M. Vincentians or Lazarists. C.M. Waster in Surgery. C.M. Common Meter. C.M. G. Companion of the Order of St. Michael and St. George. Co. Company; County. Coad. Coadjutor. Coad. Bp. Coadjutor Bishop. Coad. Cum jure suc. Coadjutor with right of succession. C.O.D. Cash (or collect) on delivery.

livery.
Col. Colonel; Colossians; Colorado.
Coll. Collector; Colloquial; College; Collection.
Colo. Colorado.

Com. Commerce; Committee; Commentay; Commissioner; Commodore; Community, Com. Arr. Committee of Arrangements. Comde, Commandant, Commodore, Commodore, Commodore, Comp. Comp. Compodore, Comp. C Comp. Com Com. Ver. (the Bible). com. Ver. Common Version (or the Bible).
Con. Against; In opposition, Contra.
Con. Cr. Contra, Credit.
Con. Convent.
Conch. Conchology.
Congress; Congregation; Congregationalist.
Conj. or conj. Conjunction.
Conn. or Ct. Connecticut.
Const. Constable; Constitution.
Cont. Contra.
Conv. Convent.
Cor. Corinthians; Corner.
Corol. Corollary.
Cor See Corresponding Secretary Corol. Corollary.
Cor Sec Corresponding Secretury
C.P. Common Pleas.
C.P. Court of Probate.
C.P. Keeper of the Privy Seal.
C.R. Keeper of the Rolls.
Cr. Creditor; Credit.
Crim. Con. Criminal conversation, or Adultery.
C.S. Court of Sessions; Commissary of Subsistence.
C.S. Keeper of the Seal.
C.S.O. Chief Signal Officer.
Ct., cts. Cent, Cents; Connecticut.
C. Theod. In the Theodosian Code.
C.W. Canada West.
Cwt. Hundredweight.
Cyc. Cyclopedia.
d. Penny or Pence.
d. Died; Day.
D. Five hundred.
Dak. Ter. Dakota Territory.
Dan. Daniel; Danish.
D.C. Again; Deputy Consul.
D.C. District of Columbia.
D.C.L. Doctor of Civil Law.
D.D. Doctor of Divinity.
D.D.S. Doctor of Dental Surgery.
D.E. Dynamic Engineer. D.D.S. Doctor of Dental Surgery.
D.E. Dynamic Engineer.
Dea. Deacon.
Dec. December; Declaration.
Deft. or Dft. Defendant.
Deg. Degree or degrees.
Del. Delaware; Delegate.
Del. or del. He drew it.
Dep. Deputy.
Dep. Q.M.G. Deputy Quartermaster-General.
Dept. Department.
Deut. Department.
Deut. By God's grace.
D.G. Thanks to God.
Diam. Diameter.
Dict. Dictator; Dictionary.
Dim. Diminutive.
Dioc. Diocese. Dim. Diminutive.
Dioc. Diocese.
Dioc. Sem. Diocesan Seminary.
Disc. Discount.
Diss. Dissertation.
Dist. District.
Dist. District.
Dist. Atty. District-Attorney.
Div. Dividend.
D.M. Doctor of Music.
D.M.D. Doctor Dental Medicine. Don. The Same, Ditto.
Dol., Dols., \$. Dollars.
Dom. To God, the best, the greatest.

Dom. Prel. Domestic Prelate. Doz. Dozen,
D.P. Doctor of Philosophy.
Dr. Debtor; Doctor.
D.S. From the sign,

D.T. Doctor of Theology.
D.V. God willing, Deo volente.
Dub. Dublin.
Dwt. Pennyweight.
E. F. F. Dub. Dut Dwt. Pen E. East. ea. Each. E. East.
ea. Each.
E. by S. East by South.
Eben. Ebenezer.
Eccl. Ecclesiastes.
Ecclus. Ecclesiasticus.
Ed. Editor; Edition.
Edin. Edinburgh.
Edit. Edition.
Edin. Editund. Edin. Edinburgh.
Edit. Edition.
Edm. Edmund.
Edw. Edward.
E.E. Errors excepted.
E.E. & M.P. Envoy Extraordinary and Minister Plenipotentiary.
e.g. For example, Exempli gratia.
e.g. From the flock, among the rest.
E.I. East Indies or East India.
Eliz. Elizabeth.
E. Ion. East longitude.
Emp. Emperor; Empress.
Encyc. Encyclopedia.
E.N.E. East-northeast.
Eng. England; English.
Eng. in Chf. Engineer in Chief.
Ens. Ensign.
Env. Ext. Envoy Extraordinary.
Ep. Epistle.
Eph. Ephesians; Ephraim. Env. Ext. Envoy Extraordinary.
Ep. Epistle.
Eph. Ephesians; Ephraim.
Epis. Episcopal.
Esd. Esdras.
E.S.E. East-Southeast.
Esq., Esqs. Esquire, Esquires.
Esth. Esther.
et al. And others, Et alii.
etc. or &c. And other things;
And so forth.
et. seq. And what follows, Et sequentia.
Evang. Evangelical; Evangelist.
Ex. Exacus.
Exc. Exaculency; Exception.
Exc. Excellency; Exception.
Exc. Exchapter. Exc. Excellency; Exception.
Exch. Exchequer.
Exce. Com. Executive Committee.
Exc. Com. Exceutive.
Exc. Exceutrix.
ex. g. For example, Exempli gratia.
Exr. or Exec. Executor.
Ex. Exra.
Exek. Ezekiel.
Exc. Ezekiel.
Exc. Executor.
Exc. Executor.
Exc. Executor.
Exel. Exel.
Exc. Exel.
Exel. Exel.
Exel. Exel.
Fahr. Fahrenheit.
Fahr. Fahrenheit.
Fahr. Free and Acceped Massons. F.A.M. Free and Acceped Masons.
Far. Farthing.
F.A.S. Fellow of the Antiquarian Society.
fcap. or fcp. Foolscap.
F.D. Defender of the Faith.
Fe. Iron, Ferrum.
Feb. February.
Fec. He did it, Feett.
Fem. Feminine.
Fem. Ac. or Acad. Female Academy. ademy. E.S. Fellow of the Entomo-F.E.S. logical Society; of the Ethnological Society.
Feud. Feudal.
F.G.S. Fellow of the Geological Society. H.S. Fellow of the Horticul-F.H.S .H.S. Fellow of the Horticul-tural Society. fa. Cause it to be done, Fieri fi. fa. Cause it to be done, Far. facias.

Fid. Def. Defender of the Faith. Fid. Def. Defender of the Faith. Fig. Figure; ligurative. Fir. Firkin. Fla. Florida. F.L.S. Fellow of the Linnæan Society. Fol. Folio. For. Foreign. F.P.S. Fellow of the Philological Society.

Fr. Franc; Francs; French;
France.
Fr. Fragment.
Fr. Francis; Father; Friar;
Frank.
F.R.A.S. Fellow of the Astronomical Society.
F.R.C.S.L. Fellow of the Royal
College of Surgeons, London.
Fred. Frederick.
F.R.G.S. Fellow of the Royal
Geographical Society.
Fri. Friday.
F.R.S. Fellow of the Royal Society. ciety.
Frs. Frisian.
F.R.S.E. Fellow of the Royal
Society, Edinburgh.
F.R.S.L. Fellow of the Royal
Society, London.
F.R.S.L. Fellow of the Royal
Society of Literature.
F.S.A. Fellow of the Society of
Arts. F.R.S.L. Fellow of the Royal Society of Literature, F.S.A. Fellow of the Society of Antiquaries, Edinburgh. Ft. Foot; Feet; Fort. Ft. Foot; Feet; Fort. Fur. Furlong. F.Z.S. Fellow of the Zoological Society. G. or g. Guineas. G.A. General Assembly. Ga. Georgia. Gal. Galatians; Gallon. G.B. Grand Channecllor. G.C. Grand Channecllor. G.C. Grand Channecllor. G.C. Grand Chanter. G.C.H. Grand Cross of the Rath. G.C.H. Grand Cross of Hanover. G.C.L.H. Grand Cross of the Legion of Honor. G.G. Genesis; General. Gent. Genesis; General. Gent. Genesis; General. Gent. Genge. Geogg. Geology. Geom. Geometry. Gov. Geom. Geometry. Gov. Geom. Grand Master. G.O. General Order. Gov. Gov. Geom. Governor. Gov. Gov. Geom. Governor. Gov. Gov. Geom. Governor. Gov. Geor. Governor. Gov. Geor. Governor. Gov. Geor. Governor. Gov. Geor. George, Georgius Rev. Grammar. Grammar. Rex.
Gr. Greek; Gross,
Gram. Grammar.
Gro. Gross,
Grot. Grotius,
h. Hour.
ha. This year, Hoc anno.
Hab. Habakkuk.
Hab. corp. You may have the body, Habas corpus.
Hag. Haggai.
Ham. Coll. Hamilton College,
H.B.C. Hudson's Bay Company.
H.B.M. His or Her Britannic Majesty. Majesty.
H.C. House of Commons,
Hdkf. Handkerchief.
H.E. His Eminence.
h.e. That is, or this is, Hoc est.
Heb. Replace. Heb. Hebrews.
Her. Heraldry.
H. Exc. His Excellency.
H.F. Holy Father.
H.-bd. Half-bound.
Hg. Mercury, Hydrargyrum.
H.H. His Holiness.
Hid. Hogshead.
Hist. History; Historical.
H.J.S. Here lies buried.
H.L. House of Lords.
H.M. His or Her Majesty.
H.M. P. Erected this monument.
Hon. Honorable.
Hort. Horticulture.
Hos. Hosea.

H.R. House of Representatives, H.R.E. Holy Roman Emperor, H.R.H. His or Her Royal High-H.R.H. His or Her Royal Highness.
H.R.I.P. Here he rests in peace.
H.S. Here lies, Hic situs.
H.S. H. His Serene Highness.
h.t. His Serene Highness.
h.t. This title; In or under this title, Hoc titulo.
h.v. This word, Hoc verbum; In these words, His verbis.
Hund. Hundred.
I, II, III. One, two, three, or, first, second, third.
Ia. Iowa.
Ib. or ibid. In the same place.
Ich. Ichthyology.
Ictus. Counselor at Law.
Id. Ter. Idaho Territory.
i.e. That is, Id est.
I.H.S. Jesus the Savior of men.
ij. Two (medical).
Ill. Illinois.
In. Inch; Inches. 1). I'wo (metacal).

Ill. Illinois.

In. Inch; Inches.
incog. Unknown, Incognito.
incor. Incorporated.

Ind. Indiana; Index; Indian.
Ind. Ter. Indian Territory.
Indef. Indefinite.
Inf. Beneath or below, Inpra.
in f. At the end of the title, law or paragraph quoted, In fine.
in lim. At the outset, In limine.
in loc. In the place; on the passage, In loco.
in pr. In the beginning and before the first paragraph of law, In principio. in pr. In the beginning and before the first paragraph of law, In principio.

I.N.R.I. Jesus of Nazarath, King of the Jews.
Insp. Gen. Inspector General.
Inst. Instant, of this month;
Institute.
in sum. In the summary, In summa.
Int. Interest; Interpreter.
Interj. Interjection.
Intr. Introduction.
Int. Introduction.
In transitu.
Introd. Introduction.
Io. Iowa.
I.O.G.T. Independent Order of Good Templars.
I.O.F. Independent Order of Foresters.
I.O.U. I owe you.
I.q. Idem guod, the same as.
Isa. Isaian.
Isl. Island.
I.S.M. Jesus Salvator mundi, Jesus the Savior of the world.
Ital. Italie; Italian.
Itin. Itinerant or Itinerary.
I.V. Four or fourth.
I.X. Nine or ninth.
J. Justice or Judge. JJ. Justices. IX. Nine or ninth.
J. Justice or Judge. JJ. Justices.
One (medical).
A. Judge-Advocate.
Jac. Jacob.
Jam Janaica.
Jan. January.
Jas. James.
J.C.D. Juris Civilis Doctor,
Doctor of Civil Law.
J.D. Jurum Doctor, Doctor of
Laws.
Jer. Jeremiah. Laws.
Jer. Jeremiah.
Jon.
John.
Jona.
Jonathan.
Jos.
Joseph.
Josh.
Joshua.
J.P.
Judge of Probate.
J.R.
Jacobus Rex, King James.
T. or Jun. Junior.
J.U.D. or J.V.D. Juris utriusque Doctor, Doctor of both Laws (of the Canon and the Civil Law).

K.S.P. Knight of St. Stanislaus, in Poland.
K.S.S. Knight of the Southern Jud. Judith. Judg. Judges. udge-Adv. Judge-Advocate. Jul. July; Julius. Jul. Per. Julian Period. in Poland.

K.S.S. Knight of the Southern Star, in Brazil; Knight of the Sword, in Sweden.

K.S.W. Knight of St. Wladimir, Jun. June; Junius; Junior.
Jun. June; Junius; Junior.
Jus.P. Justice of the Peace.
Just. Justinian.
J.W. Junior Warden.
K. King,
K.A. Knight of St. Andrew in Russia.

K.T. Knight of the Thistle;
Knight Templar.

Kt. Rnight.

K.T.S. Knight of the Tower
and Sword, in Portugal.

K.W. Knight of William, in
the Netherlands.

K.W.E. Knight of the White
Eagle, in Poland.

Ky. Kentucky.

L. Fifty or fiftieth; Liber,
book; Lake. in Russia. King.
A. Knight of St. Andrew, in Eagu,
K. Kentucky.
L. Fifty or fiftieth;
book; Lake.
L. £ or l. Libra or Librae,
Pound or pounds in weight.
L.C. Lord Chancellor; Lord
Chamberlain; Lower Canada.
Lower case.
ord Chief Baron. Chambertain; Lower Can l.c. Lower-case. L.C.B. Lord Chief Baron. L.C.J. Lord Chief-Justice. L.D. Lady-Day. Ld. Lord. of Spain.

K.E. Knight of the Elephant, Ldp. Lordship.
Leg. Legate.
Legis. Legislature.
Lev. Leviticus.
Lex. Lexicon.
L.I. Long Island.
Lib. Liber, book.
Lieut. Col. Lieutenant. Colonel.
Lieut. Gen. Lieutenant-General.
Lieut. Gov. Lieutenant-Governor. Ldp. Lordship. in Denmark. L.F. Knight of Ferdinand of K.F. Knight of Ferumana, Spain, K.F.M. Knight of St. Ferdinand and Merit, in Sicily, K.G. Knight of the Garter. K.G.C. Knight of the Grand Cross.
K.G.C.B. Knight of the Grand
Cross of the Bath.
K.G.F. Knight of the Golden
Fleece, in Spain.
K.G.H. Knight of the Guelphs
of Hanover. Lieut.-Gen. Lieutenant-General.
Lieut.-Gov. Lieutenant-Governor.
Linn. Linnxan.
Liq. Liquidation.
Lit. Literally; Literature.
Liv. Livre, book.
LL.B. Legum Baccalaureus,
Bachelor of Laws.
LL.D. Legum Doctor, Doctor
of Laws.
loc. cit. Loco citato, in the place
cited.
Lon. Longitude.
Lond. London.
L.S. Locus sigilli, Flace of the
seal.
Lt. Lieutenant.
LXX. Sixty or sixtieth.
LXX. Seventy or seventieth;
The Septuagint (Version of the
Old Testament).
LXXX. Eighty or cightieth.
M. Meridies, noon.
M. Mile, a thousand.
M. or Mons. Monsieur, Sir.
M. A. Master of Arts. of Hanover.

K.G.V. Knight of Gustavus
Vasa, in Sweden. Vasa, in Sweden.
K.H. Knight of Hanover;
Knights of Honor.
Ki. Kings.
Kil. or kil. Kilderkin.
Kingd. Kingdom.
K.J. Knight of St. Joachim.
K.L. or K.L.A. Knight of Leopold of Austria.
K.L.H. Knight of the Legion of Honor; Knights and Ladies of Honor. of Honor.

K.M. Knight of Malta.

K.Mess. King's Messenger.

K.M.H. Knight of Merit, in Holstein. Holstein.
K.M.J. Knight of Maximilian Joseph, in Bavaria.
K.M.T. Knight of Maria Theresa, in Austria.
K.N. Know Nothing.
Knick. Knickerbocker.
K.N.S. Knight of the Royal North Star in Sweden. M. Mille, a thousand.
M. or Mons. Monsieur, Sir.
M.A. Master of Arts.
Macc. Maccabees.
Mad. Madam.
Mad.Univ. Madison University.
Maj. Major.
Maj. Gen. Major-General.
Mal. Malachi.
Man. Manasses.
Mar. Marchioness.
March. Marchioness.
Marg. Tran. Marginal Translation.
Marg. Marquis. North Star in Sweden.
Knt. Knight.
K.P. Knight of St. Patrick
Knight of Pythias.
K.R.C. Knight of the Red Cross.
K.R.E. Knight of the Red Eagle, in Prussia.
K.S. Knight of the Sword, in Marq. Marquis. Masc. Masculine. Sweden Knight of St. Anne, in K.S.A. Russia.
K.S.E. Knight of St. Esprit, in France. Mass. Massachusetts. Mathematics; Mathema-Math. Matt. Matthew. Max. Maxim. M.B. Medicin-K.S.F. Knight of St. Fernando, in Spain. K.S.G. Knight of St. George, in Russia. K.S.H. Knight of St. Hubert, Max. Maxim.
M.B. Medicinæ Baccalaureus,
Bachelor of Medicine.
M.B. Musicæ Baccalaureus,
Bachelor of Music
M.B. G. et H. Magna Britannia,
Gallia et Hibernia, Great Britain, France, and Ireland.
M.C. Member of Congress.
Mch. March.
M.D. Medicinæ Doctor, Doctor of Medicine. in Bavaria K.S.I. in Bavaria.
K.S.J. Knight of St. Januarius,
of Naples.
K.S.L. Knight of the Sun and
Lion, in Persia.
K.S.M. & S.G. Knight of St.
Michael and St. George, in the
Ionian Islands.

Md. Marvland.
Mdlle. or Mile. Mademoiselle.
Mdse. Merchandise.
M.E. Methodist Episcopal; Military or Mechanical Engineer.
Me. Maine.
Mech. Mechanics, or Mechanical.
Med. Medicine.
Mem. Memorandum. Memento, remember.
Merc. Mercury.
Messrs. or MM. Messieurs, Gentlement. Messrs, or MM. Messicurs, Gentlemen.
Met. Metaphysics,
Metal. Metallurgy,
Meteor. Meteorology,
Meth. Methodist.
Mex. Mexico, or Mexican.
M.-Goth. Mœso-Gothic.
M.H.S. Massachusetts Historical Society; Member of the
Historical Society.
Mic. Micah.
Mich. Michigan.
Mil. Military.
Mil. Acad. Military Academy.
Min. Mineralogy; Minute.
Minn. Minnesota.
Min. Plen. Minister Plenipoten-Min. Plen. Minister Plenipotentiary.
Miss. Mississippi.
M.L.A. Mercantile Library Association.

MM. Their Majesties; Messiers, Gentlemen; Two thouseast sand. M.M.S. Moravian Missionary M.M.S. Moravian Missionary Society,
M. M. S. S. Massachusettensis Medical Societaiis Societs,
Fellow of the Massachusetts Medical Society,
Mo. Missouri; Month.
Mod. Modern.
Mon. Monday.
Mons. Monsteur, Sir.
Mos. Months.
Mont.Ter. Montana Territory.
M.P. Member of Parliament;
Metropolitan Police.
M.P.P. Member of Provincial Parliament.
M.R. Master of the Rolls. Parliament,
M.R. Master of the Rolls,
Mr. Mister,
M.R.A.S. Member of the Royal
Asiatic Society; Member of the
Royal Academy of Science,
M.R.C.C. Member of the Royal
College of Chemistry M.R.C.C. Member of the Royal College of Chemistry.
M.R.C.S. Member of the Royal College of Surgeons.
M.R.C.S. Member of the Royal Geographical Society.
M.R.I. Member of the Royal Institute.
M.R.I.A. Member of the Royal Irish Academy.
Mrs. Mistress.
M.R.S.L. Member of the Royal Society of Literature.
M.S. Memoriæ sacram, Sacred to the Memory; Master of the Sciences. Sciences.
MS. Manuscriptum, Manuscript,
MSS. Manuscripts.
Mt. Mount or Mountain.
Mus.B. Bachelor of Music.
Mus.D. Doctor of Music.
M.W. Most Worthy; Most Wordining. M. W. Most Worth, shipful.
Myth. Mythology.
N. North; Number; Noun; Neuter. N. A. North America. N.A. Nahum. Nah. Nahum. Nat. Natural.
Nat. Hist. Natural History.
Nath. Nathanael or Nathaniel.
N.B. New Brunswick; North
British; Nota bene, mark
well, take notice.
N.C. North Carolina; New
Church.

N.E. New England; Northeast. Neb. Nebraska. Neh. Nehemiah. n.e.i. Non est inventus, He is not found. nem. con. or nem. diss. Nemine nem. con, or nem. diss. Nemne contradicente, No one oppos-ing; Unanimously. Neut. Neuter (gender). Nev. Nevada. New Test. or N.T. New Testament.
N.F. Newfoundland.
N.G. New Grenada; Noble Grand.
N.H. New Hampshire; New Haven,
N.H. New Hampshire,
Haven,
N.H.H.S. New Hampshire Historical Society.
Ni.pri. Nist prins (law).
N.J. New Jersey.
n.l. Non liquel, It does not apn.i. Non lique, it does not appear.
N.lat. North latitude.
N.Mex. New Mexico.
N.N.E. North-Northeast.
N.N.W. North-Northwest.
N.O. New Orleans.
No. Numero, number.
Nol.pros. Nolens prosequi, I am unwilling to prosecute.
Nom. or nom. Nominative.
Non con. Not centent; dissenting (House of Lords).
Non cul. Non culpabilis, Not guilty. Non cu. guilty.
Non obst. Non obstante, not-withstanding.
Non pros. Non prosequitur, He does not prosecute.
Non seq. Non sequitur, It does does not prosective.

Non seq. Non sequitur, It does not follow.

Nos. Numbers.

Nov. November.

N.P. Notary Public; New Providence.

N.S. New Style (after 1752);

Nova Scotia.

N.T. New Testament. N.T. New Testament.
N.u. Name or names, unknown.
Num. Numbers; Numeral.
N.V.M. Nativity of the Virgin Mary.
L.W. Northwest. N.W. Northwest.
N.W.T. Northwestern Territory.
N.Y. New York.
N.Y.H.S. New York Historical Society.
O. Ohio.
O. Ohio.
Ob. Obitit, He (or she) died.
Obad. Obadiah.
Obj. Objection; Objective.
O.K. A slang phrase for "All correct."
Obt. Obedient.
Oct. October.
O.F. Odd Fellow, or Odd-Fellows lows.
O.F.P. Order of Friar Preachers.
Old Test. or O.T. Old Testa-Old Test, or O.T. Old Testament.
Olym. Olympiad.
Ont. Ontario.
Opt. Optics; Optical; Optional,
Or. Oregon.
Ord. Ordinance; Order; Ordinance; Ordinary.
Orig. Originally.
Ornith. Ornithology.
O.S. Old Style (before 1752).
O.S.F. Order of St. Francis.
O.T. Old Testament.
O.U.A. Order of United Americans. cans, Oxf. Oxford. Oxon. Oxoniensis, Oxonii, of Oxford, at Oxford. Oxford, at Oxford.
Oz. Ounce.
P. Pondere, by weight.
P. or p. Page; Part; Participle.
Pa. Pennsylvania.
Pal. Palæontology.
Par. Paragraph.
Par. Pas. Parallel passage.

Parl. Parliament.
Pathol. Pathology.
Payt. Payment.
Pb. Phmbum, Lend.
P.B. Philosophia Baccolaureus,
Bachelor of Philosophy.
P.C. Patres Conscripti, Conscript Fathers; Senators.
P.C. Privy Council; Privy Councillor.
P.D. Philosophia Doctor, Doctor of Philosophy.
Pd. Paid.
P.E. Protestant Episcopal.
P.E.I. Prince Edward Island.
Penn. Pennsylvania.
Pent. Pentecost.
Per. or pr. By the. Penn. Pennsylvania.
Pent. Pent. Pent. Pent. Pent. Pent. Pent. Per an. Per annum, by the year.
Per cent. Per centum, by the year.
Per cent. Per centum, by the hundred.
Pet. Peter.
P.G. Past Grand.
Phar. Pharmacy.
Ph.B. Philosophia Baccalaurens,
Bachelor of Philosophy.
Ph.D. Philosophy.
Phil. Philip; Philippians; Philosophy; Phillemon.
Phila. or Phil. Philadelphia.
Philom. Philomathes, Lover of learning.
Philomathe. Philomathematicus,
Alover of mathematics.
Phil. Trans. Philosophical Transactions. actions.
Phren. Phrenology.
P.H.S. Pennsylvania Historical Society. Pinx. Pinxit, He (or she) paint-Pinx. Pinxit, He (or she) painted it.
Pk. Peck.
Pl. or plur. Plural.
Plff. Plaintiff.
P.M. Post meridiem, Afternoon,
Evening; Postmaster; Passed
Midshipman; Paymaster.
P. M. G. Postmaster-General.
P.O. Post-office,
Poet. Poetical.
Pop. Population.
Port. Portugal; Portuguese.
Pos. Position; Positive; Possession. Pos. Position; Positive; Possession.
P.P. Pater Patria, Father of his Country; Parish Priest.
P.P.C. Pour prendre conge, to take leave.
Pp. or pp. Pages.
Pph. Pamphlet.
Pr. By.
P.R. Populus Romanus, the Roman People; Porto Rico;
Proof-reader; Prize Ring.
P.R.A. President of the Royal Academy. P.R.A. President of the Royal Academy.
P.R.C. Post Roman conditam, After the building of Rome.
Pref. Preface.
Prep. Preposition.
Prot. Protestant.
Pro tem. Pro tempore, for the time being.
Prov. Proverbs; Provost.
Prox. Proximo, next (month).
P.R.S. President of the Royal Society. P.R.S. President of the Royal Society.
P.S. Post scriptum, Postscript.
P.S. Privy Seal.
Ps. Psalm or Psalms.
Pt. Part; Pint; Payment; Point;
Port; Post-town.
Pub. Publisher; Publication;
Published; Public.
Pub. Doc. Public Documents.
P.v. Post-village.
Pvt. Pennyweight; Pennyweights weights.
Pxt. Pinxit, He (or she) painted

Q. Oneen.

Quasi, as it were; almost.

Q.B. Queen's Bench. Q.C. Queen's College; Queen's Counsel. Q.C. Queen's College; Queen's Counsel.
q.d. Quasi dictum, as if said; quasi dictum, as if said; quasi dixisset. as if he had said.
q.e. Quod est, which is.
q.e.d. Quod erat dimonstrandum, which was to be proved.
q.e.i. Quod erat inveniendum, which was to be done.
q.e.i. Quod erat inveniendum, which was to be found out.
q.l. Quontum libet, as much as you please.
Q.M. Quartermaster.
qm. Quomodo, how; by what means.
Q.M.G. Quartermaster-General. Q.M.G. Quartermaster-General, q.p or q.pl. Quantum placet, as much as you please. Qr. Quarter. Q.S. Quarter-sessions; Quarter-Q.S. Quarter-sessions; Quarter-section.
q.s. Quantum sufficit, a sufficient quantity,
Qt. Quart.
qu. or qy. Quare, inquire, query.
Quar. Quarterly.
Quar. Question.
q.v. Quod vide, which see;
quantum vis, as much as you will. quantum vit, as much as you will.

R. Recipe, Take; Regina, Queen;
Rex, King; River; Rod; Rood;
R.A. Royal Academy; Royal
Academician; Royal arch;
Royal Arcanum; Royal Artil-R.C. Rescriptum, A rescript, Rewritten.
R.E. Royal Engineers.
Rec. Recipe; Recorder.
Recd. Received.
Rec. Received.
Rec. Receroring Secretary.
Rect. Reference; Reform.
Ref. Ch. Reference; Reform.
Ref. Ch. Reformed Church.
Reg. Register; Regular.
Reg. Prof. Register Regular.
Reg. Prof. Register Regular.
Regt. Registera.
Regt. Registera.
Rept. Registera.
Ret. Religion.
Rep. Representative; Reporter;
Republic.
Rev. Reverend; Revelation
(Book of); Review; Revenue;
Revisc.
Rhet. Rhetoric.
R.I. Rhode Island.
Richd. Richard.
R.I.H.S. Rhode Island Historical Society.
R.M. Royal Marines; Royal
Mail.
R.M.S. Royal Mail Steamer.
R.N. Royal Mayy. lery. R.C. Rescriptum, A rescript, Re-Mail.
R.M.S. Royal Mail Steamer.
R.N. Royal Navy.
R.N.O. Riddare of Nordstjerne
Orden, Knight of the Order of
the Polar Star. the Polar Star.
Ro. Recto, Right-hand page.
Robt. Robert.
Rom. Robert.
Rom. Romans (Book of).
Rom. Cath. Roman Catholic.
R.P. Regius Professor, the
King's Professor.
RR. Railroad.
R.S. Recording Secretary.
Rs. Responsum, Answer; Respondere, To answer.
R.S.A. Royal Society of Antiquaries; Royal Scottish Academy. R.S.D. Royal Society of Dub-R.S.E. Royal Society of Edin-R.S.E. Royal Society of London, Burgh. R.S.L. Royal Society of London, R.S.V.P. Responder s'il vous plait, Answer if vou please, Rt. Hon, Right Honorable, Rt. Rev. Right Reverend.

tor.

Rt. Wpful. Right Worshipful.
R.W. Right Worthy.
R.W.O. Riddare of Wasa Orden,
Knight of the Order of Wasa.
S. South; Saint; Scribe; Sulphur, Sunday; Sun; Series.
S. Solidus, A shilling.
S.A. South America; South
Africa; South Austrolia.
s.a. Secundum artem, According
to art.
Sam. Samuel.
Sansc. Sanscrit. Sq.yd. Square yard. Sr. Sir or Senior; Sister. S.R.I. Holy Roman Empire. S.R.S. Fellow of the Royal S.R.S. Fellow of the R Society. S.S. Sunday-school. SS. Saints. SS. or ss. To-wit, Scilicet. ss. Half, Scmis. S.S.E. South-southeast. S.S.W. South-southwest. St. Saint, Street; Strait. Sansc. Sanscrit.
S.A.S. Societatis Antiquariorum
Socius, Fellow of the Society
of Antiquaries. Statute. S.T.D. Doctor of Sacred Theology.
Ster. or Stg. Sterling.
S.T.P. Professor of Sacred Ster. or Stg. Sterling.
S.T.P. Professor of Sacred
Theology.
Su. Sunday.
Subj. Subjective.
Subst. Substantive,
Su. Goth. Suio-Gothic,
Sun. or Sund. Sunday.
Sup. Supplement; Superfine;
Superior.
Supt. Supprintendent.
Surg. Surgeon; Surgery.
Surg. Gen. Surgeon-General.
Surv. Surveyor.
Surv. Surveyor.
Surv. Surveyor.
Surv. Surveyor.
Surv. Under the word or title, SubTerbo. ot Antiquaries.
Sat. Saturday.
Sax. Saxon.
Sax. Chron. Saxon Chronicle.
S.C. Senatus consultum, A dedree of the Senate; South Cardree of the Senate; South Carolina.
Sc. He (or she) engraved it.
sc. or scil. Namely.
Scan. Mag. Scandal, Scandulum
magnatum; or, Great scandal,
Scandalum magnum.
S. caps. Small capitals.
Schol. A note, Scholum.
Schr. Schooner.
Sci.fa. Make known (legal),
Sci.re facias.
Sclav. Sclavonic.
Scot. Scotland.
Sculp. or sculp. He (or she)
engraved it, Sculpsit.
S.D. Doctor of Science.
S.E. Southeast.
Sec. Secretary; Second; Section.
Sec. Law. Sceretary of Legation. olina. Sus. Susannah.

s.v. Under the word or title, Subverbo.

S.W. Southwest.

Syn. Synonym; Synonymous.

T. Territory.

T. All together, Tutti.

T. or Tom. Tome; Volume.

T.E. Topographical Engineers.
Tenn. Tennessee.

Ter. Territory.

Tex. Texas.

Text. Rec. The Received Text.

Th. or Thurs. Thursday.

Theol. Theology; Theological.

Theoph. Theophilus.

Thess. Thessalonians.

Tho'. Though.

Tho'. Though.

Thurs. Thursday.

Tim. Timothy.

Tit. Titus.

T.O. Turn over.

Tob. Tobit.

Tom. Volume.

Topog. Topography; Topographical. tion.
Sec. Leg. Secretary of Legation.
Sec. Leg. According to law.
Sec. reg. According to rule.
Sect. Section.
Sem. It seems.
Sen. Senate; Senator; Senior.
Sept. September; Septuagint.
Seq. Following, Sequentia; It follows, Sequitur.
Ser. Series.
Serg. Sergeant. tion. Ser. Series.
Serg. Sergeant.
Serg. Maj. Sergeant-Major.
Servt. Servant.
S.G. Solicitor-General.
Shak. Shakspere.
S.H.S. Fellow of the Historical Tom. Yolume.
Topog. Topography; Topographical.
Tr. Transpose; Translator; Translation.
Tr., Trs. Trustee, Trustees.
tr. A shake, Trillo.
Trans. Translator; Translation;
Trans. Translator; Translation;
Trans. Translator; Translation;
Trans. Translator; Translation;
Trans. Translator; Translation;
Trans. Translator; Translation;
Trans. Translator; Translation;
Trans. Translator; Translation;
Trin. Trinity.
Tues. or Tu. Tuesday.
Typ. Typographer.
U.C. Year of Rome.
U.E.I.C. United East India
Company.
U.J. C. Doctor of both Laws
(Civil and Canon).
U.K. United Kingdom. Society.
Sing. Singular.
S.Isl. Sandwich Islands. Sing. Singular.
S.Isl. Sandwich Islands.
Sist. Sister.
S.J. Society of Jesus.
S.J.C. Supreme Judicial Court.
Skr. Sanscrit.
S.L. Solicitor at Law.
Sid. Sailed.
S.Lat. South Latitude.
S.M. State Militia; Short Meter;
Sergeant-Major; Sons of Malta.
S.M. Lond. Soc. Cor. Corresponding Member of the London Medical Society.
s.n. According to nature, Secundam naturam.
Soc. Isl. Society Islands.
Sol. Solomon; Solution; Solicitor. U.K. United Kingdom, ult. Last; of the last month, U?-U.K. United States month, Uttimo.
Unit. Unitarian.
Univ. University.
U.S. United States.
u.s. As above, Ut supra or uti
supra.
U.S.A. United States Army.
U.S.A. United States of America. tor.
Sol. Gen. Solicitor-General.
S. of Sol. Song of Solomon.
S.P. Without issue, Sine prole.
Sp. Spain.
S.P.A.S. Member of the American Philosophical Society, S.P.G. Society for the Propaga-tion of the Gospel. ica.
U.S.M. United States Mail.
U.S.M. United States Marine.
U.S.M.A. United States Military Sp.gr. Specific gravity. S.P.Q.R. The Roman Senate S.P.Q.R. The Roman Senate and People.
Sq.ft. Square foot or square feet.
Sq.in. Square inch or inches.
Sq.m. Square mile or miles.
Sq.r. Square rood or roods. Academy.
U.S.N. United States Navy.
U.S.N.A. United States Naval Academy.
U.S.S. United States Senate.
U.T. Utah Territory.

V. Five or fifth.
V. Violin. VV. Violins.
v. or vid. See, Vide.
v. or vs. Against; In such a way:
Versus; Versiculo.
V.A. Vicar Apostolic.
V.A. Wirginia.
Vat. Vatican.
V.C. Vice-Chancellor.
V.C. Vice-Consul.
V.C. Vice-Consul-General.
V.D.M. Minister of God's Word.
Ven. Venerable.
Ver. Verse; Version.
V.F. Vicar-Forane.
V.G. Vicar-General.
v.g. As for example, Verbi Gratia.
VII. Seven or Seventh.
VIII. Seyen or Seventh.
VIII. Seyen or Seventh.
VIII. Consultation of the vicar-General.
Vic.-Ap. Vicar-Apostolic.
Vic.-Gen. Vicar-General.
Vice-Pres., or V.P. Vice-President.

Vil. Village.
Visc. Viscount.
Visc. Viscount.
Viz. or vi. To wit; Namely; That
is to say: Videlicet.
Vo. Left hand page, Verso.
Vol. Volume.
V.R. Queen Victoria, Victoria
Regina.
V.R. Very Reverend.
V.S. Veterinary Surgeon.
V. Vermont.
Vul. Vulgate (Latin version of
the Bible).
W. West.
Wash. Washington.
W.Ter. Washington Territory.
Wed. Wednesday.
West. Res. Col. Western Reserve
College.
w.f. Wrong font.
Whf. Wharf.
W.I. or W.Ind. West India.
Wisc. Wisconsin.
Wisd. Wisdom (Book of).
Wk. Weck.

W.Lon. West longitude.
W.M. Worshipful Master.
W.M. William.
W.M.S. Wesleyan Missionary
Society.
W.N.W. West-northwest.
Wpful. Worshipful.
W.S. Writer to the Signet.
W.S. Writer to the Signet.
W.S. W. West-southwest.
W.T. Wyoming Territory.
X. Ten or tenth.
X. or Xt. Christ.
XI. Eleven.
XII. Theteen.
XII. Thirteen.
XIV. Fourteen.
XVI. Sixteen.
XVII. Sixteen.
XVII. Seventeen.
XVIII. Seventeen.
XVIII. Eighteen.
XXII. Nincteen.
XX. Thirty.
XX. Thirty.
XX. Thirty.
XC. Ninety.

Xmas or Xm. Christmas.
Xn or Xtian. Christian.
Xnty or Xty. Christianity.
Xper or Xr. Christopher.
Yd. Yard.
y. or ye. The.
ym. Them.
yn. Them.
yr. Their; Your.
ys. This.
yt. That.
Y.M.C.A. Young Men's Christian Association.
Y. M. Cath. A. Young Men's
Catholic Association.
Yrs. Years; Yours.
Zach. Zachary.
Zech. Zechariah.
Zeph. Zephaniah.
Zool. Zoology.
&. And.
&c. And the rest; And so forth:
Et catera.





BY THE NEW SYSTEM OF OBJECT-TEACHING, THE SIMPLEST METHOD KNOWN.

TUDENTS will readily concede that of all foreign languages the one which best deserves their attention is the German. The influence of the Teuton stock on

American civilization and commerce is all-important, and as each year continues to bring thousands of German immigrants to our shores, it will be more and more felt. A practical illustration of this fact is shown in the cry for "German in the public schools" which is heard in the leading cities of the country at the present day. Eventually a knowledge of the language will

become so essential in the spheres of commercial and professional life that the business or professional man who cannot conduct conversation and correspondence in German will find himself at a decided disadvantage compared with him who has acquired the language. Those who wish to do so will find in the following system of self-tuition a means of grounding themselves so thoroughly in the principles of the language that, with its lessons well learned, they will have no difficulty in conversing and corresponding intelligibly with Germans whom they may meet in the way of business or social converse. And, having accomplished so much, all that will be needed to gain a mastery of the

language is careful reading of the standard works of German literature, which in time will bring fluency of both written and spoken expression.

THE ALPHABET.

The German alphabet consists of the following twenty-six letters:

ENGLISH	GERMAN	NAMES OF LETTERS.	PRONUNCIATION.	
A B C	91 a 93 b C c	ah bay tsay	as a in part. as in English. as c in cape if before a, o, u or a consonant when final.	or
D	Db	day	as in English.	
E	Ge	ay	as a in tame when long. as e in bell when short.	
F	& f	ef	as in English.	
FGHIJKLMNOPQRSTUVWXYZ			as g in go.	
H	8 g	gay hah	like h in horse.	
I	21	e	as i in sit.	
J	31	vot	as y in year.	
K	R t	kah	1)	
L		el		
M	m m	em		
N	M n	en	as in English.	
O	Do	0	(as in English	
P	B p	pay		
Q	09	koo		
R	n r	err	J,	
5	2 1	es	as s in sit.	
1	I t	tay	as in English.	
U	u u	00	as oo in pool.	
V	Bu	fow	as f in feel.	0.3
W	DB w	vay	as v in vary.	
A	Æ 5	iks	as x in box.	
Y	n n	ypsilon	as y in system.	
4	1 8 1	tset	AS IS III SIIS.	

VOWELS.

The simple vowels are a, e, i, o, u. Their sounds are given above.

COMPOUND VOWELS.

å, æ, pronounced like a in have.

ô, e, pronounced like eu in the French word feu, or ou in touch. û, ue, pronounced like eeu, or the u in the French word sur. The ac-

curate sound of this, as well as of the 3, can only be learned from a German, as there are no similar sounds in English.

au, au, is pronounced like ow in now.

eu, eu, is like oy in joy.

CONSONANTS.

The g, g, has never the soft sound as in genius, but is either hard as in gave, or has the guttural sound of the which letter is sounded like the ch in the Scotch word loch. In the pronouncing column, the g and ch will be printed in italics whenever they should have the guttural sound. Sch is pronounced like sh in ship.

-	_	
	THE DEFIN	IITE ARTICLE.
Masculine.	Feminine.	Neuter.
ber	bie	bas, is the German Article.

THE INDEFINITE ARTICLE.

dee

das

dair

Masculine.	Feminine.		
Nom. ein Bater, a father. Gen. eines Baters, of a fath Dat. einem Bater, to a fath Acc. einen Bater, a father.	Feminine. Nom. eine Stabt, a town. Gen. einer Stabt, of a town. Dat. einer Stabt, to a town. Acc. eine Stabt, a town.		

Neuter.

Nom. ein Coiff, a ship. Gen. eines Schiffes, of a ship. Dat. einem Schiffe, to a ship. Acc. ein Schiff, a ship.

COMBINATION OF ARTICLE AND NOUN.

DECLENSIONS.

The German language has three genders: Masculine, ber; Feminine, bie; Neuter, bas; which form the definite Article.

The definite article is declined as well as the substantive, and examples are here given:

Λ	lasculine.
	1

	Singu	lar.	l Pl	ural.
Nom.	ber Mann,	the man.	bie Danner,	the men.
Gen.	bes Manne	e, of the man.	ber Manner,	of the men.
Dat.	bem Mann	e, to the man.	ben Dannern,	to the men.
Acc.	ben Mann,		tie Manner,	the men.
		Fem.	inine.	
Nom.	bie Frau,	the woman.	bie Frauen,	the women.
Gen.	ber Frau,	of the woman.	ber Frauen,	of the women.
Dat.	ber Frau,	to the woman.	ben Frauen,	to the women.
Acc	bie Tran.	the woman	hie Granen.	the women

Neuter.				
Nom.	bas Pferb,	the horse.	bie Bferbe,	the horses.
Gen.	bes Pferbes,	of the horse.	ber Pferte,	of the horses.
Dat.	bem Pferbe,	to the horse.	ben Pferben,	to the horses.
Acc.	bas Pferd,	the horse.	bie Bferbe,	the horses.

EXERCISES IN THE ARTICLE AND NOUN.

THE EARTH.

GERMAN.	PRONUNCIATION.
bie Grbe	dee airdai
ein Feuer	ine foyer
bas Baffer	das vasser
bas Regenwaffer	das ragenvasser
ber Strom	dair shtrome
die See	dee say
bas Wetter	das vetter
bas Commerwetter	das summervetter
bas Winterwetter	das vintervetter
ber Winb	dair vinnd
ber Regen	dair ragen
ber Sturm	dair shtoorm
ber Sagel	dair hahgel
ber Froft	dair frust
ber Commer	dair summer
ber Winter	dair vinter
ber Schnee	dair shnay
bas Gis	das ice
ber Donner	dair dunner
	bie Grbe ein Feuer bas Wasser bas Regenwasser ber Strom bie See bas Wetter bas Sommerwetter bas Sommerwetter ber Winte ber Regen ber Sturm ber Sagel ber Frost ber Sommer ber Gommer ber Gommer ber Ghee bas Gis

ENGLISH.	GERMAN.	PRONUNCIATION.
the morning	ber Morgen	dair morgen
a day	ein Tag	ine tahg
the midday	ber Mittag	dair mittahe
the night	bie Racht	dee nacht
the moon	ber Monb	dair mond
the sun	bie Sonne	dee sonnai
a star	ein Stern	ine shtairn
the light	bas Licht	das li <i>ch</i> t
a year	ein Jahr	ine yahr

THE HUMAN BODY.

ber Arm	dair arm
ber Bart	dair bart
bas Blut	das bloot
ber Bufen	dair boosen
bie Bruft	dee broost
bas Auge	das owgay
bas Ohr	das ore
ein Rinn	ine kin
die Augenbrauen	dce owgenbrowen
ber Glbogen	dair elbogen
bie Fauft	dee fowst
ein Finger	ine fing-er
bas Fleifc	das flyshe
ber Fuß	dair fooss
bas Haar	das har
bie Banb	dee hahnd
bie rechte Sanb	dee rechtay hahnd
bie linte Sanb	dee linkay hahnd
bas Berg	das hairz
bie Bufte	dee hiftay
ein Anie	ine knee (kpronounc'd)
die Lippe	dee lippay
ber Raden	dair naḥcken
die Rafe	dee nahzay.
ein Munb	ine moond
	ber Bart bas Blut ber Busen bie Bruse bas Auge bas Ohr ein Kinn bie Augenbrauen ber Cisogen bie Faust ein Finger bas Fleisch ber Hus bas Daar bie Danb bie rechte Danb bie linte Danb bas Orz bie Düste ein Kinger

THE FAMILY.

ber Bater	dair fahter
ber Großvater	dair grossfahter
ber Stiefvater	dair shteeffahter
bas Baterlanb	das fabterland
bie Mutter	dee mootter
ein Bruber	ine brooder
bie Schwester	dce shwester
ber Ontel	dair onkel
bie Tante	dee tahntay
ber Reffe	dair neffay
eine Richte	ineay ni <i>ch</i> tay
bas Dabden	das maid <i>ch</i> en
ber Mann	dair mahnn
ber junge Mann	dair yoongay mahnn
ber alte Mann	dair altay mahnn
bas Weib	das vybe
eine Braut	ineay browt
bie Wittme	dee vitvay
ber Bittmer	dair vitver
ber Baft	dair gahst
ber Rachbar	dair nachbar
ber Freund	dair froint

FOOD.

The beer	tas Bier
the glass	tas Glas
the flask (bottle)	tie Flafche
the bread	bas Brob
fresh bread	frifches Brob
the butter	bie Butter
fresh butter	frifche Butter

The father the grandfather the stepfather the fatherland the mother a brother the sister the uncle

the aunt the nephew

a nicce the girl (maiden) the man the young man the old man the wife (woman) a bride the widow the widower the guest the neighbor the friend

> das beer das glahs dee flashay das brote frishes brote dee bootter frishay bootter

THE GERMAN LANGUAGE.

ENGLISH.	GERMAN.	PRONUNCIATION.
the cheese	ber Rafe	dair caysay
the honey	ber Bonig	dair honig
the milk	bie Dii.	dee mil <i>ck</i>
the buttermilk	bie Buttermild	dee boottermil <i>ck</i>
the oil	bas Del	das œl
the fish	ber Fifc	dair fish
the flesh (meat)	bas Fleifc	das flyshe
the wine	ber Bein	dair vine
old wine	alter Wein	alter vine
the punch	ber Bunfc	dair poonch
the rum	ber Rum	dair room
the water	bas Baffer	das vasser
the salt	tas Saly	das saltz 🔸
the pepper	ber Bfeffer	dair pfeffer
the salad	ber Salat	dair salaht
the soup	tie Suppe	dee sooppay
the beefsteak	bas Beeffteat	das beefsteak
the pudding	ber Bubbing	dair poodding
the coffee	ber Raffee	dair kaffay
the tea	ber Thee	dair tay
the chocolate	bie Chotolabe	dee chocolahday
the lemonade	bie Limonabe	dee limonahday

TOWN AND COUNTRY.

The house	bas Haus	das house
the garden	ber Garten	dair garten
the land	bas Lanb	das lahnd
the market	ber Martt	dair markt
the street	bie Straße	dee strahssay
the church	bie Rirche	dee keerchay
the mail	bie Boft	dee pust
the bank	bie Bant	dee bank
the theater	bas Theater	das tayahter
the hospital	bas Hofpital	das hospitahl
the coffee-house	bas Raffeebaus	das kaffayhouse
the palace	ber Balaft	dair palast
the harbor	ber Safen	dair hahfen
the field	bas Felb	das feld
the dale (valley)	das Thal	das tahl
the wood (forest)	ber Balb	dair vald
the bush	ber Bufc	dair boosh
the heath	bie Saibe	dee hiday
the hill	ber Sügel	dair heeugel
the mill	bie Duble	dee meeullay
the corn	bas Rorn	das korn
the straw	bas Stroh	das shtro

TRADES AND PROFESSIONS.

TRADES AND TRUE ESSIONS.			
ber Bader	dair becker		
ter Buchbinber	dair boockbinder		
tas Buch	das boo <i>ck</i>		
ber Dottor	dair doktor		
ber Sut	dair hoot		
ber hutmacher	dair hootma <i>ck</i> er		
ter Coub	dair shoe		
ter Soubmacher	dair shoemacher		
tas Rafirmeffer	das raseermesser		
ein Barbier	ine barbeer		
tas Glas	das glahs		
ber Glafer	dair glaiser		
ter Nagel	dair nahgel		
ber Cattel	dair sattel		
ber Cattler	d air sattler		
bie Muble	dee meeullay		
ber Müller	dair meculler		
ber Meifter	dair miceter		
tanzen	tanzen		
ber Tangmetfter	dair tanzmiceter		
bie Boft	dee pust		
	ber Bader ber Buchbinder bas Buch ber Dottor ber Hut ber Hut ber Summacher ber Schuch ber Schuch ber Schuch ber Schuch ber Schuch ber Schuch ber Schuch ber Schuch ber Glas ber Glas ber Glase ber Schler ber Schler ber Schler ber Wüller ber Müller ber Meifter fanzen ber Tanzmeister		

ENGLISH.	GERMAN.	PRONUNCIATION
the postmaster	ber Poftmeifter	dair postmiceter
to ride	reiten	riten
the riding-master	ber Rittmeifter	dair rittmiceter
the school	bie Soule	dee shoolay
the schoolmaster	ber Schulmeifter	dair shoolmiceter
the smith	ber Schmieb	dair shmit
the smithy	bie Schmiebe	dee shmeeday
the nailsmith	ber Ragelichmieb	dair nahgelshmit
the goldsmith	ber Golbichmieb	dair goldshmit
the coppersmith	ber Rupferfcmieb	dair koopfershmit
the weaver	ber Beber	dair vayber
the king	ber Ronig	dair kænig
the prince	ber Bring	dair prints
the baron	ber Baron	dair bahrone
the officer	ber Officier	dair offeetseer
the soldier	ber Solbat	dair soldaht
the pope	ber Pabft	dair pahbst
the archbishop	ber Grabifcof	dair airtsbishof
the bishop	ber Bifcof	dair bishofe
I		

CLOTHING.

The jacket	bie Jade	dee yackay
the shoe	ber Soub	dair shoe
the hat	ber Sut	dair hoot
the brush	bie Burfte	dee beeurstay
the hairbrush	bie Baarburfte	dee harbeeurstay
the frock (coat)	ber Frad	dair frak
the wool	tie Bolle	dee vollay
the cravat	bie Cravatte	dee cravahtte
the purse	bie Borfe	dee bœrsay
the cap	bie Rappe	dee kappay
the ring	ber Mina	dair ring

BEASTS, BIRDS, FISHES, ETC.		
The hound (dog)	ber Bunb	dair hoond
the cat	bie Rape	dee kahtsay
the rat	bie Ratte	dee rattay
the mouse	bie Maus	dee mouse
the swine (pig)	bas Schwein	das shvine
the hare	ber Safe	dair hahzay
the roe	bas Reb	das ray
the ox	ber Dofe	dair ocksay
the cow	bie Rub	dee koo
the calf	bas Ralb	das kalb
the sheep	tas Schaaf	das shahf
the lamb	bas Lamm	das lam
the fox	ber Fuchs	dair fooks
the wolf	ber Bolf	dair volf
the bear	ber Bar	dair bær
the elephant	ber Glephant	dair elefahnt
the camel	bas Rameel	das cahmail
the swan	ter Schwan	dair shvan
the falcon	ber Falle	dair falkay
the goose	tie Gans	dee gahns
the stork	der Storch	dair shtor <i>ch</i>
the snipe	bie Conepfe	dee shnepfay
the raven	ber Rabe	dair rahbay
the lark	bie Lerche	dee lair <i>ch</i> ay
the crow	bie Rrabe	dec krayay
the nightingale	tie Rachtigaa	dee na <i>ch</i> tig al
the cuckoo	ber Rudud	dair kookook
the swallow	tie Schwalbe	dee shvalbay
the finch	ber Finte	dair finkay
the sparrow	ber Sperling	dair spairling
the fish	ber Fisch	dair fish
the carp	ber Rarpfe	dair carpfa y
the herring	ber haring	dair hairing
the cel	ber Mal	dair ahl
the frog	ber Frofc	dair frush

ENGLISH.		PRONUNCIATION.	ENGLISH.	GERMAN.	PRONUNCIATION.
the worm	GERMAN. ber Wurm	dair voorm	winter	Binter	vinter
the spider	bie Spinne	dee shpinnay	January	Januar	vanooar
the oyster	bie Mufter	dee ouster	February	Februar	febrooar
the crab	ber Rrebs	dair kreps	March	Mars	mayrts
the flea	ber Floh	dair flo	April	April	apreel
the fl y	die Fliege	dee fleegay	May	9DR at	m y
the bee	bie Biene	dee beenay	June	Juni	yoonee
the wasp	bie Befpe	dee vespay	July	Juli	yoolee
the snail	die Schnede	dee shneck ay	August	August	owgoost
7	IINERALS AND ME	MTATO .	September	September	september
			October November	October Rovember	october november
The gold	bas Golb	das gult	December	Dezember	daytsember
the silver	bas Silber	das silber	the days of the week	die Bochentage	dee vockentahgay
the copper the iron	bas Rupfer	das koopfer	Sunday	Sonntag	suntag
the tin	bas Gifen bas Zinn	das eisen das tsin	Monday	Montag	moneta _e
the steel	bas Stahl	das shtahl	Tuesday	Dienstag	deenstag .
the zinc	bas Bint	das tsink	Wednesday	Mittwoch	mittvo <i>ck</i>
the bronze	bie Bronge	dee bronsay	Thursday	Donnerstag	donnerstag
the diamond	ber Diamant	dair deeamahnt	Friday	Freitag	freitahg
the pearl	bie Berle	dee pairlay	Saturday	Samstag Sonnabend	sahmstah <i>g</i> sunnahbend
the coral	bie Roralle	dee corallay	The holiday	ber Feiertag	dair firetag
the marble	bas Marmor	das marmor	Christmas	Beihnachten	vina <i>ch</i> ten
the gypsum	ber Gpps	dair gyps	Easter	Dftern	ohstern
the clay	ber Lehm	dair lame	Whitsuntide	Bfingften '	pfingsten
the chalk	ber Ralt	dair calk	the morning	ber Morgen	dair morgen
the coal the earth	bie Roble	dee coalay	noon	Mittag	mittag
the sand	bie Grbe ber Sanb	dee airday	the afternoon	ber Rachmittag	dair na <i>ch</i> mittag
the stone	ber Stein	dair sahnd dair stine	the evening	ber Abenb	dair abend
	vii Oitia	uan sine	the night	die Racht	dee na <i>ch</i> t
	SHIPS AND SHIPP	ING.	midnight	Mitternacht	mitterna <i>ch</i> t
The ship	bas Shiff	das shiff		THE HOME.	
the boat	bas Boot	das boat			
the ship-of-the-line	bas Linienschiff	das leenyenshiff	The bell	die Glode	dee gluckay
the fisherboat	bas Fifcherboot	das fisherboat	the knocker	ber Rlopfer	dair klupfer
the anchor the deck	ber Unfer	dair anker	to open	dffnen	æffnen
the flag	bas Ded	das deck	the servant the staircase	bie Magb bie Treppe	dee magd dee treppay
the mast	bie Flagge ber Mast	dee flaggay dair mast	the stancase	bas Zimmer	das tsimmer
the foremast	ber Borbermaft	dair fordermast	the drawing-room	bas Putzimmer	das pootstsimmer
the sail	bas Segel	das saygel	the sitting-room	bas Bohnzimmer	das vohntsimmer
the strand	ber Stranb	dair shtrand	the dining-room	bas Eggimmer	das esstsimmer
the rudder	bas Ruber	das rooder	the sleeping-room	bas Schlafzimmer	das shlahftsimmer
the net	das Net	das netz	the kitchen	bie Ruce	dee keeu <i>ch</i> ay
the lading (freight)	bie Labung	dee lahdung	the cellar	ber Reller	dair keller
the freight	die Fracht	dee fra <i>ch</i> t	the window	bas Fenfter	das fenster
the coast	bie Rufte	dee kistay	the stove	ber Ofen	dair ohfen
the cliff the downs	die L lippe die Dûnen	dee klippay	the chimney the looking glass	ber Ramin der Spiegel	dair kameen dair shpeegel
the ground	ber Grunb	dee deeunen dair groond	the table	ber Tifc	dair tish
the storm	ber Sturm	dair groong dair shtoorm	the chair	ber Stubl	dair shtool
the fleet	bie Flotte	dee flottay	the arm-chair	ber Armftubl	dair armshtool
the frigate	bie Fregatte	dee fregattay	the carpet	ber Teppicy	dair teppick
•	TIME AND SEASO		the chest of drawers	bie Rommobe	dee commonday
		24.50	the sofa	ba8 Sopha	das sofa
The century	bas Jahrhunbert	das yarhoondert	the candlestick	ber Leuchter	dair loy <i>chter</i>
the year	bas Jahr	das yar	the candle	bas Licht	das li <i>ch</i> t
the month the week	ber Monat	dair monat	the lamp	bie Lampe	dee lampay
the day	bie Woche ber Lag	dee vo <i>ch</i> ay	the wick	ber Docht	dair do <i>ch</i> t das œl
the hour	bie Stunbe	dair tag dee shtoonday	the oil to light	bas Del angûnben	antsinden
half-an-hour	eine halbe Stunde	inay halbay shtoonday	the bed	anzunven bas Bett	das bet
the minute	tie Minute	dee minoohtay	the counterpane	bie Bettbede	dee betdeckay
the second	bie Gefunbe	dee secoonday	the sheets	bie Betttücher	dee betteecher
the seasons	bie Jahreszeiten	dee yarestsiten	the pillow	bas Ropftiffen	das kupfkissen
spring	Frühling	freeling	the basin	bas Bafcbeden	das vashbecker
summer	Commer	summer	the soap	bie Seife	dee sifay
autumn	Perbft	hairbst	the towel	bas Hanbiuch	das handtoo <i>ch</i>
•					

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THE GERMAN LANGUAGE.

ENGLISH
warm water
cold water
hot water
to wash
the comb
to comb
F
The apple

GERMAN. warmes Baffer taltes BBaffer beißes Baffer maiden ber Ramm fåmmen

ber Apfel

PRONUNCIATION. varmes vasser kaltes vasser hyses vasser vashen dair kamm kemmen

dair apfel

ITS, TREES AND FLOWERS.

FRU
The apple
the apple-tree
the pear
the pear-tree
the plum
the plum-tree
the cherry
the chestnut
the peach
the apricot
the orange
the lemon
the grape
the nut
the walnut
the currant
the gooseberry
the raspberry
the blackberry
the strawberry
the oak
the beech
the poplar
the lime
the ash
the fir
the willow
the rose
the pink
the tulip
the lily
the violet
the lilac
the lily of the valley

ber Apfelbaum dair apfelbowm bie Birne dee beernay dair beernbowm ber Birnbaum bie Pflaume dee pflowmay ber Bflaumenbaum dair pflowmenbowm bie Rirfche dee keershay bie Raftanie dee kastanyay ber Bfirfic dair pfeersich bie Apricofe dee apreecohsay bie Apfelfine dee apfelseenay bie Citrone dee tsitronay bie Beintraube dee vinetrowbay bie Mus dee nooss bie Ballnuß dee vallnooss bie Johannisbeere dee yohanisbairay bie Stachelbeere dee shtachelbairay bie Simbeere dee himbairay Die Brombeere dee brombairay bie Grbbeere dee airdbairav bie Giche dee ichay bie Buche dee boochav bie Bappel dee pappel bie Linbe dee linday bie Giche dee eshav bie Tanne dee tannay bie Beibe dee viday bie Rofe dee rosay bie Relfe dee nelkay bie Tulpe dee toolpay bie Lilie dee lecleay bas Reilden das filecken ber Glieber dair fleeder bas Maiblumden das mybleumchen

THE TOILET.

The clothes
the coat
the trowsers
the pocket
the buttons
the dressing-gown
the slippers
the drawers
the stockings
the shirt
the braces
the waistcoat
the boot
the boot-jack
the cap
the gloves
the handkerchief
the watch
the umbrella
the purse
the brush
the comb
the apron
the fan
the dress

bie Rleiber ber Rod bie Bofen bie Tafde bie Rnopfe ber Schlafrod bie Bantoffeln bie Unterhofen bie Strumpfe bas Bemb Die Bofentrager bie Befte ber Stiefel ber Stiefelfnecht bie Dune bie Sanbidube bas Tafchentuch bie Uhr ber Regenfchirm bie Borie bie Burfte ber Ramm bie Sourge ber Rader bas Rleib

dee klider dair ruck dee hozen dee tashay dee knæpfay dair shlahfruck dee pantuffeln dee oonterhosen dee streeumpfay das hemt dee hosentrayger dee vestav dair shteefel dair shteefelknecht dee mitsay dee handshooay das tashentooch dee oor dair raygensheerm dee bærsay dee birstay dair kamm dee shecurtsay dair fe*ch*er das klite

ENGLISH. the petticoat the stays the veil the powder the soap the tooth-powder

GERMAN. ber Unterrock bas Sonurleib ber Soleier bas Buber bie Geife bas Bahnpulver

PRONUNCIATION. dair oonterruck der shneerlipe dair shlire das pooder dee sifav das tsahnpoolfer

TRAVEL.

The voyage the traveller the road the railroad the station the train the engine the carriage the wagon the departure the arrival the pass-port the inn (hotel) the landlord the waiter the bill the interpreter the luggage the trunk the carpetbag

bie Reife dee rizay dair rizenday ber Reifenbe dee lahndshtrahsay bie Lanbftraße bie Gifenbahn bie Station (ber Bug bie Dafdine bie Rutfche ber Bagen bie Abreife bie Anfunft ber Baf ber Gafthof ber Birth ber Reliner bie Rednung ber Dolmetider bas Gepad ber Roffer ber Reifefad

dee isenbahn dee stahtzione dair tsoog Mee masheenay dee kootshay dair vahgen dee abrizay dee ankoonft dair pass dair gasthof dair veert dair kelner dee recknoong dair dullmetsher das gepeck dair cuffer dair rizaysack

AT THE WRITING-DESK.

The paper the writing-paper the writing the sheet the pen the steel-pen the penknife the inkstand the ink the pencil the scissors the date the direction the mail the seal the sealing-wax the wafer the ruler the letter the note

bas Bapier das papeer bas Schreibpapier das shribepapeer dee shrift bie Schrift dair bogen ber Bogen bie Reber dee fayder dee stahlfayder bie Stahlfeber bas Febermeffer das faydermesser bas Tintenfaß das tintenfass bie Tinte dee tintay dair blystift ber Bleiftift dee shayray bie Scheere ber Datum der dahtoom bie Abreffe dee ahdressay bie Boft dee pust das petshaft tas Beticaft dair seegellac ber Giegellad dee oblahtay tie Oblate das leenayahl bas Lineal dair breef ber Brief bas Billet das bilyet

LANDS AND PEOPLES.

The country the native land the state the empire the kingdom Europe the European America the American Asia Africa the East Indies the West Indies the United States Brazil England the Englishman

bas Lanb bas Raterlanb ber Staat bas Reich bas Ronigreich Gurora ber Guropaer Amerita ber Amerifaner Mfien Afrifa Dftinbien Weftinbien bie vereinigten Staaten Brafilien

England

ber Englanber

amayricah dair amayrikahner azien afrika ostindien vestindien dee verinigten stahten brahzeelien englahnd dair Englender

das lahnd

dair shtaht

das ricke

oiropa

das fahterlahnd

das kæni*grick*e

dair oiropayer

PRONUNCIATION.

THE GERMAN LANGUAGE.

ENGLISH.

ENGLISH.	GERMAN.	PRONUNCIATION.
Ireland	Irlanb	eerlahnd
the Irishman	ber Irlanber	der eerlender
Scotland	Schottlanb	shutlahnd
the Scotchman	ber Scotte	dair shuttay
France	Frantreich	frankri <i>ck</i> e
the Frenchman	ber Frangofe	dair frantsosay
Germany	Deutschland	doytshlahnd
the German	ber Deutiche	dair doytshay
Holland	Bolland	hullahnd
the Dutchman	ber Sollanber	dair hullender
Austria	Defterreich	eceterri <i>ck</i> e
the Austrian	ber Defterreicher	dair eceterricher
Prussia	Breugen	proyssen
the Prussian	ber Breuge	dair proyssay
Russia	Rugland	roossland
the Russian	ber Ruffe	dair roossay
Sweden	Someben	shvayden
the Swede	ber Somebe	dair shvayda y
Denmark	Danemart	danemark
the Dane	ber Dane	dair daynay
Switzerland	bie Schweit	dee shvyts
the Swiss	ber Comeiter	dair shvytser
Italy	Italien	ectalyen
the Italian	ber Italiener	dair eetaleeayner
Spain	Spanten	shpanyen
the Spaniard	ber Spanier	dair shpaneeyare
Greece	Griechenland	greechenlahnd
the Greek	ber Grieche	deir greechay
Turkey	bie Türfei	dee teerki
the Turk	ber Türke	dair teerkay
the Jew	ber Jube	dair yooday
the Persian	ber Berfler	dair perzier

THE ADJECTIVE.

The German adjective is placed before the substantive.

With the definite article it takes the termination in e; with the indefinite article or without the article, it takes the termination of its gender; as: Der gute Bater, the good father; guter Bater, good father; ein guter

Bater, a good father.

Die gute Mutter, the good mother; gute Mutter, good mother; eine gute Mutter, a good mother.

Das gute Rind, the good child; gutes Rind, good child; ein gutes Rind,

a good child.

COMPARISON OF ADJECTIVES.

The comparative of a German adjective is formed by adding et to

the positive, the superlative by adding fie; as:

Riein, little — fleiner, smaller — fleinfie, smallest.

Reid, rich — reider, richer — reidfie, richest. The "than" following the comparative is translated by "als". Er ift fleiner als ich; he is smaller than I.

VOCABULARY OF ADJECTIVES.

White	weiß	vice
red	roth	rote
blue	blau	blou
brown	braun	brown
gray	grau	grou
green	grûn	green
yellow	gelb	gelb
orange '	orange	orahnge
purple	purpur	poorpoor
violet	violett	vecolet
old	alt	ahlt
young	jung	yoong
new	nen	noi
great	groß	gross
good	gut	goot

ENGLISH.	GERMAN.	PRONUNCIATION.
rich	reich	ricke
cold	falt	kalt
warm	warm	varm
long	lang	lahng
high	Şođ)	hoa <i>ck</i>
full	Box	foll
cool	tabl ·	keel
near	nabe	nah
hard	hart	hart
light	leicht	lyckt
wild	wilb	villd
fat	fett	fet
fine	fein	fine
milď	milb	milld
deep	tief	teef
fresh	frifd	frish
ripe	reif	rife
unripe	unreif	oonrife
bitter	bitter	bitter
small	fámal .	shmahl
wide	weit	vite
open	offen	uffen
loud	Lant	lout
right	recht	reckt
wise	weife	visay
blind	blinb	blinnd
unwell	unwohl	oonvole
hot	beiß	hice
thick	bid	dick
nest	nett	net
thin	bûnn	din
broad	breit	brite
round	runb	roond
false	falfo	fahlsh
sour	fauer	sour
hollow	bobl	hole
sharp	fdarf	sharf
flat	ficó	flack
small	flein .	kline
narrow	enge	engay
low	niebrig	needrig
beautiful	fo dn	schœn
handsome	habig	hibsch
ugly	hāflic	hessli <i>ck</i>
bad	foleot	shle <i>ck</i> t
easy	Leicht .	leicht
heavy	fcwer	s hv air
soft	weich	vycke
true	wahr	vahr
short	furj	koorts
far	weit	vite
sweet	füß	sccss
hollow	hohl	hole
blunt	ftumpf	shtoompf
delicious	toplic	kæstli <i>ck</i>
disagreeable	unangenehm	oonahn genaym
honest	ehrlich	ayrlick
polite	B onia	hœfli <i>ck</i>
obliging	gefällig	gefellig
kind	gûtig	geetig
prudent	Mug	kloog
stupid	bumm	doomm
ridiculous	låderlid	le <i>ck</i> erli <i>ck</i>
reasonable	vernünftig	ferninftig
happy	glūđli ó	glickli <i>ck</i>
unhappy	unglådli d	oonglickli <i>ck</i>
glad	frop	fro
satisfied	gufrieben	tsoofreeden
active	thätig	taitig

GERMAN.

ENGLISH.	GERMAN.	PRONUNCIATION.	ENGLISH.	GERMAN.	PRONUNCIATION. inay millecone
proud	fiolg	shtults	a million	eine Million	ine towsend ackt hoon-
rude	grob	grope	hundred and fifty-		dert noyn cond finf-
bold	fühn	keen	nine.	menuna innitia	tsig
strong weak	part fanct	shtark shvach	nine.		
attentive	fcwach aufmerkfam	snvacn owimerksahm	THI	CORDINAL NUM	BERS.
clever	gefcidt	geshickt	1	Non and a	dair ayrstay
sick	frant	krahnk	the first	ber erfte	dair tsvitay
pale	blas	blahss	the second the third	ber zweite ber britte	dair drittay
healthy	gejund	gezoond	the fourth	ber vierte	dair feertay
poor	arm	arm	the fifth	ber fünfte	dair finftay
empty	leer	lair	the sixth	ber fechefte	dair sextag
light	bell	hell	the seventh	ber flebente	dair seebentay
dark	buntel	doonkel	the eighth	ber achte	dair acktay
dry	troden	trocken	the ninth	ber neunte	dair noynta y
wet	naß	nahss	the tenth	ber gebnte	dair tsanetay
dirty	fcmuşig	shmootsi <i>g</i>	the eleventh	ber elfte	dair elftay
cheap	billig	billig	the twelfth	ber swölfte	dair tsvelftay
clean	rein	rine	the thirteenth	ber breizehnte	dair drytsanetay
tired	mübe	meeday	the fourteenth	ber vierzehnte	dair feertsanetay
angry	bôse	bœsay	the fifteenth	ber fünfzehnte	dair finftsanetay
merry	Iuftig	loostig	the sixteenth	ber fechstehnte	dair sechtsanetay
	CARDINAL NUM	CBERS.	the seventeenth	ber fiebengebnte	dair seebentsanetay
One	ein, eins	ine, ines	the eighteenth	ber achtzehnte	dair a <i>ch</i> tsanet ay dair noyntsanetay
two	amei	tsvi	the nineteenth	ber neunzehnte	dair tsvanzigstay
three	brei	dri	the twentieth the twenty-first	ber zwanzigste ber einundzwanzigste	dair incoondtsvantsig-
four	pier	feer	the twenty-nist	ber einennomanftibbe	stay
five	fûnf	finf	twenty-second	ber zweiundzwanzigfte	dair tsvioondtsvantsig
six	fec 8	sex	twenty-second	ser imeranolmandialisa	stay
seven	fieben	seeben	the twenty-third	ber breiundzwanzigfte	dair drioondtsvantsby-
eight	acht	a <i>ch</i> t	1 (stay
nine	neun	noyn	the thirtieth	ber breißigfte	dair drysigstay
ten	gehn	tsane	the thirty-first	ber einundbreißigfte	dair ineoonddrysigstay
eleven	elf	elf	the thirty-second	ber zweiunbbreißigfte	dair tsvioonddrysigstay
twelve	gwdlf	tsvelf	the fortieth	ber vierzigfte	dair feertsigstay
thirteen	breizehn	drytsane	the fiftieth	ber fünfzigfte	dair finftsigstay
fourteen	vierjehn	feertsane	the sixtieth	ber fechszigfte	dair sechtsigstay
fifteen	fünfzehn	finftsane	the seventieth	ber fiebengigfte	dair secbentsigstay
sixteen	fechejehn	sextsane seebents ane	the eightieth	der achtzigste	dair achtsigstay
seventeen	fiebengehn	seebentsane achtisane	the ninetieth	ber neunzigfte	dair noyntsigsta y dair hoondersta y
eighteen nineteen	achtzehn neunzehn	noyntsane	the one hundredth	ber huntertfte	dair hoondertoondayr-
twenty	awangig	tsvantzig	first	t bet hundettnuberlie	stay
twenty-one	einunt;wangig	ineoondtsvantzig	the two hundredth	ber ameibunbertfte	dairtsvihoondertstay
twenty-two	smeiunbzwanzig	zvioondtsvantzig	the three hundredth	ber breibunbertfte	dairdrihoondertstay
twenty-three	breiundzwanzig	dryoondtsvantzig	the one thousandth	ber taufenbfte	dair towsendstay
thirty	breißig	drysig		• •	_
forty	viergig	feertzig	C	OLLECTIVE NUMI	BERS.
fifty	fünfzig	finftzig	A pair	ein Paar	ine pahr
sixty	fechezig	sechtzig .	a dozen	ein Dugenb	ine dootsend
seventy	ftebenzig	seebenzig	a score	zwanzig	tsvantsig
eighty	achtzig	achtzig	firstly	erftens	ayrstens
ninet y	neunzig	noyntzi <i>g</i>	secondly	zweiten6	tsvitens
one hundred	hunbert	hoondert	thirdly	britten6	drittens
one hundred and o	•	hoondert oond incs	the first time	bas erfte Mal	das ayrstay mal
	wo hundert und zwet	hoondert oond tsvi	the second time	das zweite Mal	das tsvitay mal
two hundred	amei bunbert	tsvi hoondert	once	einmal	inemal tsvimal
three hundred	brei hunbert	dry hoondert feer hoondert	twice	zweimal breimal	drymal
four hundred five hundred	vier hundert	finf hoondert	thrice	einfac	inefa <i>ck</i>
six hundred	fünf hundert	nni noondert sex hoondert	single double	toppelt	duppelt ·
seven hundred	fechs hunbert fieben hunbert	seeben hoondert	threefold	breifach	dryfack
eight hundred	acht hundert	acht hoondert	fourfold	vierfach	feerfa <i>ck</i>
nine hundred	neun hunbert	noyn hoondert	one sort	einerlei	inerly e
one thousand	taufend	towsend	two sorts	gmeierlei	tsvierlye
two thousand	swei taufenb	tsvi towsend	three sorts	breierlet	drierlye
three thousand	bret taufenb	dry towsend	four sorts	viererlet	feererlya
ten thousand	gebn taufenb	tsane towsend	fen sorts	gehnerlei	tsancriye

tsane towsend

fen sorts

gweierlei breierlei viererlei gehnerlei

ten thousand

brei taufenb gebn taufenb

	_		THE	GERMAI
	PRON	OUNS.		
1	ido	mine		mein
thou	. Оп	thine		Dein
he	er	his		fein
she	fie	her		ibr
we	wiz	ours		unfer
you	Iþr	yours		Guer
they	fie	theirs		ihr
this	biefer	who, which		welcher
that	jener	who		mer
such	folder	each, every	one	jeber
somebody	jemanb	nobody		niemanb
	THE ving the regular veing the regular veing whose	erbs the stude		
	AUXILIAE			
	Baben -	to have		
	•	ITIVE.		
	Present. haben, t			
		aben, to have he	ıd.	
	Future. haben w	erben, to be abou	at to ha	ve.
	Participles: Prese	ut. habenb, hav	ing.	
	Perfe	ct. gehabt, had		
IND	CATIVE.	sent.	UNCTIV	B.
ich habe,	I have	ich habe,	I may	y have
Du haft,	thou hast	Du habeft,		mayst have
er hat,	he has	er babe,		ay have
wir haben,	we have	wir haben,		ay have
Ihr habt,	you have	3hr habet,		nay have
fie baben.	they have	fie haben.		may have

INDICATIVE.		BUE	BUBJUNCTIVE.	
ich babe,	I have	ich habe,	I may have	
Du baft,	thou hast	Du habeft,	thou mayst have	
er hat,	he has	er babe,	he may have	
wir haben,	we have	1 '	we may have	
Ibr habt,	you have	wir haben,	•	
fie baben,	•	3hr habet,	you may have	
he danen,	they have	fie haben,	they may have	
		erfect.		
ich hatte,	I had	ich hatte,	I might have	
Du hatteft,	thou hadst	Du hatteft,	thou mightest have	
er hatte,	he had	er batte,	he might have	
wir hatten,	we had	wir batten,	we might have	
Ihr hattet,	you had	3hr battet,	you might have	
fie hatten,	they had	fie hatten,	they might have	
	Per	rfect.		
I hs	ive had.		ay have had.	
to habe ge	habt	ich hab	e gehabt	
Du haft ge	:habt	Du bal	best gehabt	
er hat geb	abt		er habe gehabt	
wir haben	gehabt	wir haben gehabt		
3hr habt 4	ebabt	3hr habet gehabt		
fle haben g	ebabt	fie haben gehabt		
•	 Dlus	erfect.	0.7	
I h	ad had.		who have had	
ich batte g		I might have had.		
Du hattef	•	1 ' '	• ,	
er hatte ge			itest gehabt	
			gehabt	
wir hatten gehabt		mir bat	wir batten gehabt	

wir hatten gehabt	wir batten gehabt
3hr hattet gehabt	36r battet gebabt
fie hatten gehabt	fie batten gehabt
Fir	rst Future.
I shall have.	If I shall have.
ich werbe haben	ich werbe haben
Du wirft haben	Du merbeft haben
er wirb haben	er werbe haben
wir werben haben	mir merben baben
3hr werbet haben	36r merbet baben
fie merben haben	fie werben baben

INDICATIVE.	SUBJU	SUBJUNCTIVE.		
Second	d Future.	•		
I shall have had.	If I shall	have had.		
ich werbe gehabt haben	ich werbe ge	thabt haben		
Du mirft gehabt haben	Du merbefi	gehabt haben		
er wirb gehabt haben	er werbe ge	habt haben		
wir werben gehabt haben	mir merben	gehabt baben		
3hr werbet gehabt haben	3hr werbet	gehabt haben		
fie werben gehabt haben	fie werben	gehabt haben		
FIRST CONDITIONAL.	SECOND CO	ONDITIONAL.		
I should have.	I should	have had.		
ich würbe haben	ich wurbe g	ehabt haben		
Du murbeft haben	Du murbe	t gehabt haben		
er murbe haben	er murbe gehabt haben			
mir murben haben	wir murben gehabt haben			
3hr murbet haben	3br marbet gehabt haben			
fie murben haben	fle murben	gehabt haben		
IMPE	RATIVE.			
have	l haben wir,	let us have		

habe,	have	l haben wir,	let us have
habe er,	let him have	habt (3hr),	have ye
		l haben fie,	let them have
	Sein -	- to be.	

infinitive. Present. Perfect. gemesen sein, to be.

Participles: Present. seineb, being.

Perfect. gemesen, been.

INDICATIVE. SUBJUNCTIVE.

ich bin,	I am .	ich fei	I may be
Du bift,	thou art	Du feift,	thou mayest be
er ift,	he is	er fet,	he is
wir finb,	we are	wir feien,	we may be
36r feib,	you are	3hr feiet,	you may be
fte finb,	they are	fie feten,	they may be
	Imp	erfect.	
ich war,	I was	ich mare,	I might be
Du warft,	thou wert	Du mareft,	thou mightest be
er mar,	he was	er mare,	he might be
mir waren,	we were	mir maren,	we might be
36r maret,	you were	36r maret,	you might be
fie maren,	they were	fie maren,	they might be

j.	Perfect.
I have been.	I may have been.
d bin gemefen	ich fei gemefen
Du bift gemefen	Du feift gemefen
er ift gemefen	er fet gemefen
mir finb gemefen	mir feien gemefen
Ihr feib gemefen	Ihr feiet gemefen
fie find gemefen	fie feien gemefen

fie find gewesen	t ite leten gemelen
P	luperfect.
I had been.	I might have been.
ich war gewesen	ich ware gewesen
Du marft gemefen	Du mareft gewesen
er mar gemefen	er mare gemefen
wir maren gemefen	wir maren gewesen
3hr maret gemefen	Ihr maret gemefen
fie maren gemefen	fie maren gemefen
Pir	st Future.
I shall be.	If I shall be.
ich werbe fein	ich werbe fein
Du wirft fein	Du werbeft fein
er wirb fein	er werbe fein
wir merben fein	wir werben fein
Ihr werbet fein	Ihr werbet fein
fie werben fein	fie werben fein

THE GERMAN LANGUAGE.

	Saama	I Fretsing)	
		Future.	wir werben werben	wir werben werben
	have been.	If I shall have been.	Ihr werbet werben	36r werbet werben
	gewesen fein	ich werbe gewefen fein	fie werben werben	fie merben merben
Du wirst	gemefen fein	Du werbeft gemefen fein	Second	l Future.
	ewefen fein	er werte gemefen fein	I shall have become.	If I shall have become.
	n gemefen fein	wir werben gemefen fein		
	et gewesen fein	3hr werbet gewesen fein	ich werbe geworben fein	ich werbe geworben fein
	gewesen fein	fe merben gewesen fein	Du wirft geworben fein	Du merbeft geworben fein
	-	- · ·	er wirb geworben fein	er werbe geworben fein
	ONDITIONAL.	SECOND CONDITIONAL.	wir merben geworben fein	mir werben geworben fein
I sh	ould be.	I should have been.	Ihr werbet geworben fein	3hr merbet geworben fein
ich wür	be fein	ich murbe gemefen fein	fie werben geworben fein	fie werben geworben fein
	rbest fein	Du murbeft gemefen fein	FIRST CONDITIONAL.	SECOND CONDITIONAL.
er würd		er murbe gemefen fein		
	rben fein	mir murben gemefen fein	I should become.	I should have become.
	rbet fein	Ihr murbet gewesen fein	ich würde werben	ich wurbe geworben fein
•	ben sein	fie murben gemejen fein	Du murbeft merben	Du murbeft geworben fein
lie mut	•	- · · · ·	er murbe merben	er murbe geworben fein
	IMPE	RATIVE.	wir wurben werben	wir murben geworben fein
fet b	e	feien wir let us be	3hr murbet merben	3hr wurbet geworben fein
•	et him be.	feib Ihr be ye	fie murben werben	fie wurben geworben fein
,		feien fie let them be	·	
		1 1 1	IMPE	RATIVE.
	Machan	to become.	werbe (Du) become thou	merben mir let us become
			merbe er let him become	merbet Ihr become ye
	INFIN	HITIVE.	active to let mim become	werben fie let them become
Pres	ent. werben, to bec	ome.	i	mernen lie ser mem necomme
Perfe		rben fein, to have become.	m	man de libe
Futu		to be about to become.	шкодеп—to	may, to like.
	iciples: Present.		INDICATIVE.	SUBJUNCTIVE.
2/		geworben, become.		resent.
	-	•	I may.	I may.
INDIC	CATIVE.	SUBJUNCTIVE.		1
	Pre	sent.	th mag	ich möge
b werbe	I become	id merbe I may become	Du magft	Du mögeft
u wirst	thou becomest	Du werbest thou mayest become	er mag	er möge
: with	he becomes		wir mogen	wir mogen
		,	Ihr mögt	3hr moget
ir werben	we become	wir merben we may become	fie mogen	fie mogen
hr werbet	you become	3hr werdet you may become		· -
e werben	they become	fie werben they may become	Imperfect. ich mochte	to modite
	Jan A.	erfect.	Perfect. ich habe gemocht	to habe zemocht
£	-	•	Pluperfect. ich hatte gemocht	ich hatte gemocht
b murbe	I became	ich würde I might become	ast Future. ich werbe mogen	ich werbe mögen
Du murbeft	thou becamest	Du wurdest thou mightest become	ad Future. ich werbe gemocht haben	ich werbe gemocht haben
murbe	he became	er wurbe he might become	First Conditional,	ich marbe mogen.
ir wurben	we became	wir wurden we might become		ich wurbe gemocht haben.
hr wurbet	you became	3hr wurdet you might become		
e murben	they became	fie marben they might become	Wollen—to	be willing.
	-	• •	INDICATIVE.	SUBJUNCTIVE.
		fect.		esent.
I have	become.	I may have become.	I am willing.	I may be willing.
ta bin a	eworben	to fei geworben		, ,
	geworben		ich will	to wolle
er ift ger		Du feift geworben	Du willst	Du wollest
		er fei geworben	er wtA	er wolle
	geworben	wir feien geworben	wir wollen	wir wollen
	geworben	3hr felet geworben	Ihr wollet	Ihr wollet
fie find g	zeworben	fie feien geworben	fie wollen	fie wollen
	Plut	erfect.		· ·
	become.	-	Imperfect. ich wollte	ich wollte
		I might have become.	Perfect. ich habe gewollt	ich habe gewollt
	geworben	to ware geworben	Pluperfect. ich hatte gewollt	ich batte gewollt
ich war		Du mareft geworben	Ist Future. ich werbe wollen	ich werbe wollen
ich war	ft geworben		ad Future. ich werbe gewollt haben	ich werbe gewollt haben
ich war : Du war	ft geworben eworben	er wäre geworben		
ich war : Du war er war g		-	First Conditional.	id warbe wollen.
ich war g Du war er war g wir war	en geworben	wir maren geworben	First Conditional. Second Conditional.	
ich war g Du war er war g wir war Jhr war	emorben en geworben et geworben	wir wären geworben Ihr wäret geworben		ich würde wollen. ich würde gewollt haben.
ich war g Du war er war g wir war Jhr war	n geworben en geworben eworben	wir wären geworben Ihr wäret geworben fie wären geworben	Second Conditional.	
ich war g Du war er war g wir war Jhr war	n geworben en geworben eworben	wir wären geworben Ihr wäret geworben	Second Conditional. Sollen—to be oblig	to wurbe gewout haben. red: I shall, I ought.
th war g Du war er war g wir war Jhr war fle ware	eworben en geworben et geworben n geworben First	wir wären geworben Ihr wäret geworben fie wären geworben Future.	Second Conditional. Sollen—to be oblig INDICATIVE.	tố wûrbe gewollt haben. red : I shall, I ought. subjunc tive .
th war g Du war er war g wir war Ihr war fle ware	eworben en geworben eet geworben n geworben First L become.	wir wären geworben Ihr wäret geworben fie wären geworben Future. If I shall become.	Second Conditional. Collen—to be oblig INDICATIVE. Pro	to wurbe gewout haben. red: I shall, I ought. subjunctive.
ich war g Du war er war g wir war Jhr war fle ware I shall ich werb	eworben en geworben et geworben n geworben First L become, e werben	wir wären geworben Ihr wäret geworben fie wären geworben Future. If I shall become. ich werbe werben	Second Conditional. Collen—to be oblig INDICATIVE. Pro I shall.	to wurde gewoult haben. red: I shall, I ought. subjunctive. reens. I shall.
ich war g Du war er war g wir war Jhr war fle ware: I shall ich werd Du wir	eworben en geworben tet geworben n geworben First l become, e werben p werben	wir wären geworben Ihr wäret geworben fie wären geworben Future. If I shall become. ich werbe werben Du werbeft werben	Second Conditional. Collen—to be oblig INDICATIVE. Pro	to wurde gewout haben. ged: I shall, I ought. subjunctive. ishall. to foue
ich war g Du war er war g wir war Jhr war fie ware I shall ich werb	eworben en geworben tet geworben n geworben First l become, e werben p werben	wir wären geworben Ihr wäret geworben fie wären geworben Future. If I shall become. ich werbe werben	Second Conditional. Collen—to be oblig INDICATIVE. Pro I shall.	to wurde gewout haben. red: I shall, I ought. subjunctive. reens. I shall.

THE GERMAN LANGUAGE.

	er foll	1	er folle
	wir follen	(wir follen
	36r follet		3br follet
	fie follen	1	fie follen
Imperfect.	ich follte		ich follte
Perfect.	ich habe gefollt		ich habe gefollt
Pluperfect.	ich hatte gefollt	ĺ	ich batte gefollt
Ist Future.	ich werbe follen		ich merbe follen
ad Future.	ich werbe gefollt haben	i	ich werbe gefollt haben
	First Conditional.	ich marbe	follen.
	Second Conditional.	ich murbe	gefollt haben.

Ronnen-to be able.

INDICATIVE.	SUBJUNCTIVE.
Pro	esent.
I am able, I can.	I may be able.
ich fann	ich tonne
Du tannft	Du tonneft
er fann	er tonne
wir fonnen	wir tonnen
3hr tonnet	3hr finnet
fie tonnen	fie tonnen
Imperfect. ich fonnte	ich tonnie
Perfect. ich habe gefonnt	ich habe getonnt
Pluperfect. ich hatte getonnt	ich batte gefonnt
Ist Future. ich merbe tonnen	ich werbe tonnen
ad Future. ich werbe gelonnt haben	ich werbe gefonnt habes

First Conditional. ich murbe fonnen. Second Conditional. ich murbe gefonnt haben.

Dürfen-to be allowed, to dare.

INDICATIVE.	SUBJUNCTIVE.
I am allowed.	I may be allowed.
ich darf Du darfft er darf wir dürfen Ibs dürfet	ich bürfe Du bürfeft er bürfe wir bürfen Ihr bürfen
fie bürfen	fie burfen
Imperfect. ich burfte Perfect. ich habe geburft Pluperfect. ich hatte geburft 'set Future. ich werbe bürfen ad Future. ich werbe geburft haben	ich bürfte ich habe geburft ich hätte geburft ich werbe bürfen ich werbe geburft haben
First Conditional. Second Conditional.	ich würbe bürfen. ich würbe geburft haben.

Muffen-to be obliged.

1	NDICATIVE. <i>Pre</i>	SUBJUNCTIVE.
I am	obliged, I must.	I may be obliged.
	ich muß	to muffe
	Du mußt.	Du muffeft
-:	er muß,	er muffe
	wir muffen	wir muffen
	36r mußt	36r muffet
	fie muffen	fie muffen
Imperfect.	ich mußte	ı ich müßte
Perfect.	ich habe gemußt	to habe gemußt
Pluperfect.	ich hatte gemußt	ich batte gemußt
Ist Future.	ich werbe muffen	ich werbe muffen
ad Future.	ich werbe gemußt haben	ich werbe gemußt haben
	First Conditional.	ich warbe muffen.
	Second Conditional.	ich murbe gemußt haben.

Ľα	nen-	-to	let.	

1	NDICATIVE.	SUBJUNCTIVE.
	Pr	esent.
	I let.	I may be let.
	ich laffe	ta laffe
	Du laffeft	Du laffeft
	er läßt	er läßt
	mir laffen	wir laffen
	3hr laffet	3hr laffet
	fie laffen	fie laffen
Imperfect.	ich ließ	ı ich ließe
Perfect.	ich habe gelaffen	to hale gelaffen
Pluperfect.	ich hatte gelaffen	ich batte gelaffen
ist Future.	to werbe laffen	ich werbe laffen
ed Future.	ich werde gelaffen haben	ich werbe gelaffen haben
	First Conditional.	ich murbe laffen.

Second Conditional. ich murbe gelaffen haben.

IMPERATIVE.

laß Du	1	laffen wir
laß er		laffet 3hr
	1	laffen fie

THE REGULAR VERB.

The rule for the formation of the regular verb is very simple. It runs: The present tense is formed by dropping the n of the infinitive; the imperfect by dropping the final e of the present and adding te; the past participle by dropping the final e of the imperfect and prefixing ge. For example: Infinitive, Ieben, to live; present, to leve, I live; imperfect, ich lebte, I lived; past participle, gelebt, lived.

Active Voice.

Leben—to live.

INFINITIVE.

Present. leben, to live. Perfect. gelebt haben, to have lived.
Future. leben werben, to be about to live.
Participles: Present. lebenb, living. Perfect. gelebt, lived.

INDICATIVE.

SUBJUNCTIVE. Present.

ich lebe	I live	tc lebe	I may live
Du lebft	thou livest	Du lebeft	thou mayest live
er lebt	he lives	er lebe	he may live
wir leben	we live	wir leben	we may live
3br lebt	you live	36r lebet	you may live
fie leben	they live	fie leben	they may live

Imperfect.

I lived	to lebte	I might live
thou livedst	Du lebteft	thou mightest live
he lived	er lebte	he might live
we lived	wir lebten	we might live
you lived	36r lebtet	you might live
they lived	fie lebten	they might live
	thou livedst he lived we lived you lived	thou livedst Du lebtest he lived er lebte we lived wir lebten you lived 3hr lebtet

I may have lived.
ich habe gelebt
Du habeft gelebt
er habe gelebt
wir haben gelebt
36r habet gelebt
fie haben gelebt

Pluperfect.

I nad lived.
ich hatte gelebt
Du hatteft gelebt

I might have lived. ich hatte gelebt Du hatteft gelebt

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e ··			l to believe	alanben	glowben
	e gelebt	er hätte gelebt	to know	millen	yissen
	tten gelebt	wir hatten gelebt	to write	ichreiben.	shriben
	ittet gelebt	Ihr hattet gelebt	to read	lesen	layzen
he han	ten gelebt	fie hätten gelebt	to pronounce	aussprechen	owsshprecken
	First F	ulure.	to translate	überfegen	eebersetsen
I si	hall live.	If I shall live.	to recollect	fic erinnern	sick erinnern
ic mer	be leben	ich werbe leben	to forget	vergeffen	fairgessen
•	rft leben	Du werbest leben	to promise	verfprechen	fairshprecken
er wirt		er werbe leben	to expect	erwarten	airvarten
wir me	rben leben	wir werben leben	to converse	unterhalten	oonterhalten
Ihr we	erbet leben	3hr werbet leben	to express	austraden	owsdricken
fie wer	den leben	fle werben leben	to explain	erflären	airklayren
	Second	Fulues	to tell	fagen	saagen
I shall	l have lived.	If I shall have lived.	to call	rufen	roofen
		·	to weep	weinen	v ine n
	gelebt haben	ich werbe gelebt haben	to recommend	empfehlen	empfayle n
	gelebt haben	Du werbest gelebt haben	to receive	empfangen	empfangen
	elebt haben	er werbe gelebt haben	to send	foiden	shicken
	en gelebt haben	wir werben gelebt haben	to buy	taufen	kowfen
	et gelebt haben	3hr werbet gelebt haben	to pay	bezählen	betsahlen
	n gelebt haben	fie werben gelebt haben	to order	beftellen	beshtellen
FIRST C	ONDITIONAL.	SECOND CONDITIONAL.	to furnish	liefern	leefern
I sh	ould live.	I should have lived.	to sell	vertaufen	fairkowfen
fd mir	be leben	ich würde gelebt haben	to reply	antworten	antvorten
•	irbest leben	Du murve gelebt haben			
	be leben	er wurde gelebt haben		4	~
	rben leben			ADVERB	5.
	arbet leben	wir würden gelebt haben		6.10	y ah
	ben leben	Ihr würdet gelebt haben	Yes	ja jawohl	yahvole
he mar		fie würben gelebt haben	indeed	in ber That	in dair taht
	IMPERA	TIVE.	truly	wabrlich	vaarli <i>ck</i>
lebe (Du)	live (thou)	leben wir let us livo	certainly	gewiß	geviss
lebe er	let him live	lebet (3hr) live (ye)	surely	ficerlic	si <i>ch</i> erl ich
	1	leben fie let them liv	only	nur	noor
			some	etwas	etvas
	VOCABULARY	OF VERBS.	nothing	nichts	nickts
To eat	effen	essen	much	viel	feel
to drink	trinten	trinken	quite	gånglic	gents
to dream	träumen	troymen	very	febr	sare
to wash	mafchen	vashen	so	fo	50
to comb	fåmmen	kemmen	thus	alfo	also
to go	geben	gayen	how	wie	Yee
to speak	fprechen	shpre <i>ck</i> en	no	nein	nine
to laugh	lachen	la <i>ch</i> en	not	nict	nicht
to think	benten	denken	but	nur	noor
	lernen	lairnen	enough	genug	genoog
to learn	baten	bahden	scarcely	faum	kowm
to learn to bathe			all	gang	gants
		bre <i>cke</i> n			B
to bathe	brechen	bre <i>ck</i> en bisen		• • .	byn ahe
to bathe to break	brechen beißen	bisen	almost	beinahe	byn ahe heer
to bathe to break to bite	brechen beißen Loften	bisen custen	almost here	beinah e hier	heer
to bathe to break to bite to cost	brechen beißen Losten bören	bisen custen hæren	almost here there	beina he hier da	heer da
to bathe to break to bite to cost to hear to help	brechen beißen Loften bören belfen	bisen custen hæren helfen	almost here there where	beina he hier ba wo	heer da vo
to bathe to break to bite to cost to hear	brechen beihen Loften hören helfen geben	bisen custen hæren helfen gayben	almost here there where in	beina he hier ba wo herein	hecr da vo herine
to bathe to break to bite to cost to hear to help to give	brechen beißen toften boren beifen geben machen	bisen custen hæren helfen gayben machen	almost here there where in out	beinahe hier ba wo herein heraus	heer da vo herine herows
to bathe to break to bite to cost to hear to help to give to make	brechen beißen Loften boren geben machen thun	bisen custen hæren helfen gayben machen toon	almost here there where in out then	beinahe hier ba wo herein heran8 benn	heer da vo herine herows den
to bathe to break to bite to cost to hear to help to give to make to do	brechen beißen loften bören belfen geben machen ibun reiten	bisen custen hæren helfen gayben machen toon riten	almost here there where in out then	beinahe hier ba wo herein herans benn jeht	heer da vo herine herows den yetst
to bathe to break to bite to cost to hear to help to give to make to do to ride	brechen beißen toften botren beifen geben machen thun retten fagen	bisen custen hæren hæren gayben machen toon riten sahgen	almost here there where in out then now soon	beinahe hier ba wo herein heraus benn jeht balb	heer da vo herine herows den yetst bald
to bathe to break to bite to cost to hear to help to give to make to do to ride to say	brechen beißen fosten beisen geben machen ihun reiten sagen senben	bisen custen hæren helfen gayben machen toon riten sahgen senden	almost here there where in out then now soon till	beinahe hier ba wo herein herans benn jeht balb	heer da vo herine herows den yetst bald bis
to bathe to break to bite to cost to hear to help to give to make to do to ride to say to send	brechen beißen fosten böljen geben machen ihun reiten sagen such	bisen custen hæren helfen gayben machen toon riten sahgen senden soochen	almost here there where in out then now soon till seldom	Beinahe hier ba wo herein herans benn jeht balb his felten	heer da vo herine herows den yetst bald bis selten
to bathe to break to bite to cost to hear to help to give to make to do to ride to say to send to seek to breakfast	brechen beißen loften bören belfen geben machen ibun reiten fagen fenben frühftüden	bisen custen hæren helfen gayben machen toon riten sahgen senden soochen freeshticken	almost here there where in out then now soon till seldom since	beinahe hier ba wo herein herans benn jeht balb bis felten felten	heer da vo herine herows den yetst bald bis selten site
to bathe to break to bite to cost to hear to help to give to make to do to ride to say to send to seek to breakfast to dine	brechen beißen foften botren beifen geben machen thun retten fagen fenben fuchen frübstiden fpeten	bisen custen hæren helfen gayben machen toon riten sahgen senden soochen freeshticken shpeyzen	almost here there where in out then now soon till seldom since ever	beinahe hier ba wo herein heraus benn jeht balb bis felten feit immer	heer da vo herine herows den yetst bald bis selten site immer
to bathe to break to bite to cost to help to give to make to do to ride to say to send to seck to breakfast to dine to sup	brechen beißen toften botren beifen geben machen thun retten fagen fenben fuchen frühftiden fpetfen gu Abend effen	bisen custen hæren helfen gayben machen toon riten sahgen senden soochen freeshticken shpeyzen tsoo ahbend essen	almost here there where in out then now soon till seldom since ever never	beinahe hier ba wo herein herans benn jeht balb bis felten felt immer	heer da vo herine herows den yetst bald bis selten site immer nee
to bathe to break to bite to cost to hear to help to give to make to do to ride to say to send to seek to breakfast to dine to sup	brechen beifen foften boffen beifen geben machen ibun reiten fagen fenben juchen frühflüden fpeifen au Wenb effen	bisen custen hæren helfen gayben machen toon riten sahgen senden soochen freeshticken shpeyzen tsoo ahbend essen ankummen	almost here there where in out then now soon till seldom since ever never	beinahe hier ba wo herein herans benn jeht balb bis felten fett immer nie oft	heer da vo herine herows den yetst bald bis selten site immer nee
to bathe to break to bite to cost to hear to help to give to make to do to ride to say to send to seek to breakfast to dine to sup to arrive to depart	brechen beißen loften bören bölen geben machen ibun reiten fagen fenben fuchen frübfüden fpeifen gu Abend effen abreifen	bisen custen hæren helfen gayben machen toon riten sahgen senden soochen freeshticken shpeyzen tsoo abbend essen ankummen abrizen	almost here there there where in out then now soon till seldom since ever never oft already	beinahe hier ba wo herein herans benn jeht balb bis felten feit immer nie	heer da vo herine herows den yetst bald bis selten site immer nee uft schone
to bathe to break to bite to cost to hear to help to give to make to do to ride to say to send to seek to breakfast to dine to sup to arrive to depart to meet	brechen beißen fosten soften beifen geben machen thun retten sagen suchen suchen suchen suchen antommen abreisen	bisen custen hæren hælen gayben machen toon riten sahgen senden soochen freeshticken shpeyzen tsoo ahbend essen ankummen abrizen treffen	almost here there where in out then now soon till seldom since ever never oft already to-day	beinahe hier ba wo herein heraus benn jeht balb bis felten feit immer nie oft foon heute	heer da vo herine herows den yetst bald bis selten site immer nee uft schone hoytay
to bathe to break to bite to cost to hear to help to give to make to do to ride to say to send to seek to breakfast to dine to sup to arrive to meet to be tired	brechen beißen toften bören beifen geben machen thun retien fagen fenben fuchen frühltden fpetfen autommen abreifen ireffen mube fein	bisen custen hæren helfen gayben machen toon riten sahgen senden soochen freeshticken shpeyzen tsoo ahbend essen ankummen abrizen treffen meeude seyn	almost here there where in out then now soon till seldom since ever never oft already to-day yesterday	beinahe hier ba wo herein herans benn jeht balb bis felten felt immer nie oft foon heute gestern	heer da vo herine herows den yetst bald bis selten site immer nee uft schone hoytay gestern
to bathe to break to bite to cost to hear to help to give to make to do to ride to say to send to seek to breakfast to dine to sup to arrive to depart to meet	brechen beißen fosten soften beifen geben machen thun retten sagen suchen suchen suchen suchen antommen abreisen	bisen custen hæren hælen gayben machen toon riten sahgen senden soochen freeshticken shpeyzen tsoo ahbend essen ankummen abrizen treffen	almost here there where in out then now soon till seldom since ever never oft already to-day	beinahe hier ba wo herein heraus benn jeht balb bis felten feit immer nie oft foon heute	heer da vo herine herows den yetst bald bis selten site immer nee uft schone hoytay

ENGLISH.	GERMAN.	PRONUNCIATION.
if	wenn	ven
perhaps	vielleicht	feelly <i>ch</i> t
	PREPOSITION	rs.
Above	über	eeuber
about	um	oom
after	nach	na <i>ck</i>
against	gegen	gaygen
before	por	fore
of	bon	fun
over	über	eeuber
since	feit	site
for	für	feeur
from	bon	fun
in	in	in
near	nabe	nahay
under	unter	oonter
up	auf	owf
with	mit	mit
	CONJUNCTION	is.
And	unb	oont
but	aber	ahber
also	au c	ou <i>ck</i>
even	fogar	sogar
or	ober	oder
nor	поф	nu <i>ck</i>
yet	роф	du <i>ck</i>
because	weil	vile
that	baş	das
therefore	baher	dahair
•		•



CONVERSATION IN GERMAN.

PHRASES OF AFFIRMATION.

	MSES OF AFFIRM	AIIUN.
ENGLISH.	GERMAN.	PRONUNCIATION.
It is true.	Es ist wahr.	Es ist var.
It is so,	Gs ift so.	Es ist so.
I believe it.	Ich glaube es.	Ick glowbay es.
I think so,	3d bente es.	Ich denkay es.
l say yes.	36 fage ja.	Ick sahgay yah,
I say it is.	36 fage es ift.	Ick sahgay es ist,
l am certain,	36 bin gewiß.	Ick bin gayviss.
I am certain of it.	3d bin beffen gewiß.	Ich bin dessen gayviss.
You are right.	Sie haben Recht.	See haaben recht.
You are quite right.	Gie haben gang Recht.	See haaben gantz reckt.
I know it.	36 weiß es.	Ich vice es.
I know it well.	36 meiß es genau.	Ick vice es genow.
I know him.	3ch fenne ibn.	Ich kenne een.
I know it positively.	36 meiß es ficher.	Ich vice es sicher.
I promise it.	36 verfpreche es.	Ich vershprechay es.
I promise it to you.	36 verfpreche es Ihnen	. Ich vershpreckay es
		eenen.
I give it.	3ch gebe es.	Ich gaybay es.
I give it to you.	3ch gebe es Ihnen.	Ich gaybay es eenen.
I will give it to you.		1. Ich vill es eenen gayben.
You are wrong.	Sie haben Unrecht.	See haaben oonrecht.
He is wrong.	Gr hat Unrecht.	Air hat conrecat.
I believe him.	3d glaube ibm.	Ich glowbay eem.
Very well.	Sehr mobl.	Sare vole.
very wen.) Gehr gut.	Sare goot.
P	HRASES OF NEGA	TION.
No.	Rein.	Nine.
I say no.	36 fage nein.	Ick saagay nine.
-	-	

ENGLISH.	GERMAN.	PRONUNCIATION.
I say it is not.	36 fage es ift nicht.	Ich saagay es ist nicht.
It is not so.	Es ift nicht fo.	Es ist nicht so.
It is not true.	Ge ift nicht mabr.	Es ist nicht var.
I say nothing.	36 fage nichts.	Ich saagay nichts.
He is not here.	Gr ift nicht bier.	Air ist nicht heer.
I have it not.	3d babe es nicht.	Ich haabay es nicht.
He has it not.	Gr bat es nicht.	Air hat es nicht.
We have it not.	Bir haben es nicht.	Veer haaben es nicht.
You have it not.	36r habt es nicht.	Eer haabt es nicht.
He said no.	Gr fagte nein.	Air saagtay nine.
Has he said no?	Sat er nein gefagt ?	Hat air nine gesaagt?
Has he said nothing?	Bat er nichts gefagt ?	Hat air nichts gesaugt?
I have not heard it.	3ch habe es nicht gehört.	Ich haabay es nicht ge- hært.
You are quite wrong.	Sie haben burchaus Uns	See haaben doorchouse

PHRASES OF INTERROGATION.

oonrecht.

recht.

	oth	
Who?	Ber ?	Vair?
Who was it?	Wer war es?	Vair var es?
What is it?	Was ift es?	Vas ist es?
Who is it?	Ber ift es ?	Vair ist es?
Did you say it?	Sagten Sie es?	Saagten see es?
What are you doing?	Was thun Sie?	Vas toon see?
What is he doing?	Was thut er ?	Vas toot air?
Tell me.	Sagen Sie mir.	Saagen see meer.
Will you tell me?	Bollen Sie mir fagen ?	Vollen see meer saa- gen?
How are you?	Bie geht's ?	Vee gates?
How is he?	Bie geht's ibm ?	Vee gates eem?
What for?	Bofur ?	Vofeer?
Why?	Warum ?	Varoom?
Why do you ask?	Barum fragten Gie ?	Varoom fraagen see?
Why shall I go?	Warum foll ich geben ?	Varoom sull ich gayen?
What do you say?	Bas fagen Sie?	Vas saagen see?
Do you hear?	Boren Gie ?	Hærdn see?
I don't speak to you.		Ich shpreckay mit eenen
t don topone to jour	nicht.	nickt.
Do you understand?	Berfteben Gie ?	Fershtayen see?
Listen!	Boren Sie!	Hæren see!
Come here.	Rommen Sie hierher.	Kummen see heerhair.
What is that?	Was ift bas ?	Vas ist das?
Answer,	Antworten Sie.	Antvorten see.
		Varoom antvorten see
swer?	nicht?	nicht?
What do you mean by that?	Bas meinen Sie bamit	? Vas minen see damit?
	36 vermuthe Gie fpre-	Ich fermootay see
suppose?	den Deutsch.	shprechen doytsh.
Very little, sir.	Gebr wenig, mein Berr.	Sair vanig, mine hair.
Do you know Mr. H.	Rennen Gie Berrn D. ?	Kennen see hairn ha?
I know him by sight.	36 tenne ibn von ans feben.	Ich kennay een fun an- sane.
I know him by name.	3d tenne ibn bei Ras men.	Ich kennay een by nah- men.
I know him well.	Er ift mir mohl befannt.	Air ist meer vole bay- kant.
What do you call that	Bie nennen Sie bas?	Vee nennen see das?
What is that in Ger- man?		Vee histe das owf doytsh?
What does that mean	• • •	Vas histe das?
Why do you speak?	Warum fprechen Gie ?	Varoom shprecken see?
Why are you silent?	Barum fdmeigen Gie ?	•
Why did you go?	Barum gingen Gie?	Varoom gingen see?
, ,		
Is it ready?	• •	
Is it ready?	3ft es fertig ?	Ist es fairtig?
Is it ready? Have you heard? Do you hear?	• •	

THE GERMAN LANGUAGE.

ENC	GLISH.	GERMAN.	PRONUNCIATION.	ENGLISH.	GERMAN.	PRONUNCIATION.
Where is		Wo tft fie ?	Vo ist see?	Do you understand?	Berftehen Ste ?	Fershtayen see?
Where are			Vo sind see?		Ronnen Gie verfteben ?	Kænnen see ferstayen!
	•		Vo gayen see hin?	Speak slower.	Sprechen Sie langfamer.	Shprecken see lang-
Where do	you come	Bo tommen Gie ber ?	Vo kummen see hair?			samer.
from?				You speak too fast.	Sie sprechen zu schnell.	See shprecken tsoo
Where we	ere you?		Vo varen see?	C! :	Makan Mia wata Marak	Shnell. Gayben see meer brote.
What?			Vas?	Give me some bread.		Gayben see meer etvas
What is t			Vas ist das? Veefeel oor ist es?	eat.	gu effen.	tsoo essen.
What o'cl What hav			Vas haaben see?		Gimas ju trinfen.	Etyas tsoo trinken.
What do		Bas fagen Ste?	Vas saagen see?			Bringen see meer kaaf-
	you want?	Bas wollen Sie?	Vas vullen see?	•		fay.
What will		Bas wollen Sie thun ?		I thank you.	36 bante Ihnen.	Ich daankay eenen.
		RASES OF COMMA	i	Good morning.	Guten Morgen.	Gooten morgen.
•				Good day.	Guten Tag.	Gooten taag.
Come awa	•		Kummen see fort!	How do you do?	Bie geht's ?	Vee gates?
Come here			Kummen see heerhair!	How are you?	Bie befinden Sie fich?	
Come bac			Gayen see dort-hin! Kummen see tsoorick!	Very well.	Sehr mohl.	Sair vole.
Go on!	.K.1	Rommen Sie jurud!	Gayen see viter!	I am very well.		Ich bayfinday mich sair
Sit down!	1	Geben Sie weiter! Segen Sie fich!	Setsen see sick!	Pretty well.	mohl. Ziemlich wohl.	vole. Tseemlick vole.
Stand stil		• • •	Shtayen see shtill!	Tolerably.	So ziemlich.	So tseemlick.
Wait!		Barten Ste!	Varten see!	How is your father?		Vee bayfindet sick eer
Wait for			Varten see owf mick!	,	herr Bater ?	hair faater?
Wait a lit			Varten see ine vaynig!	How is your mother?		Vee bayfindet sick eeray
Make has		Machen Ste fonell!	Machen see shnel!		Frau Mutter ?	frow mootter?
Be quick!		Beeilen Gie fich!	Bay-ilen see sick!	I am not well.	Ich bin nicht wohl.	Ich bin nicht vole.
Follow m. Tell him!		* *	Fulgen see meer!	I am unwell.	36 bin unwohl.	Ich bin oonvole.
Call him!		- 0	Saagen see cem! Roofen see een!	She is ill.	Sie ift frant.	See ist krank.
Speak!		Rufen Sie ihn! Sprechen Sie!	Shprechen see!	He is very ill.	Er ift febr trant.	Air ist sair krank. See hat sick airkeltet.
Eat!		Effen Ste!	Essen see!	She has a cold. I have a toothache.	Sie hat fich ertaltet. Ich habe Zahnweh.	Ich haabay tsahnvay.
Drink!		Trinten Sie!	Trinken see!	I must go.	3ch muß geben.	Ich mooss gayen.
Hear!		Boren Sie!	Hæren see!	It is time to go.	Ge ift Beit ju geben.	Es ist tsite tsoo gayen.
Hear me	!	Boren Sie mich!	Hæren see mick!	Farewell.	Leben Sie mobl.	Layben see vole.
Look at n	ne i	Sehen Sie mich an!	Sayen see mick an!	Good-by.	Abien.	Adyœ.
Begin!		Fangen Sie an!	Fangen see an!	I wish you a good	36 muniche Ihnen einen	Ick vinshay eenen inen
Continue	1	Fahren Sie fort!	Faaren see fort!	morning.	guten Morgen.	gooten morgen.
Stop!		Halt !	Halt!	Good evening.	Guten Abenb.	Gooten ahbend.
Tell me! Tell it to	him!	Sagen Sie mir!	Saagen see meer!	Good night.	Gute Racht.	Gootay nacht.
Speak to		Sagen Sie es ihm! Sprechen Sie mit ihm!	Saagen see es eem! Shprecken see mit eem!	1 wish you good night.	Ich muniche Ihnen gute Racht.	Ich vinshay eenen goo- tay nacht.
Be quiet!		Seien Sie rubig!	Syen see rooig!	My compliments at		Minay empfayloongen
Go I		Geben Sie!	Gayen see!	home.	ben Ihrigen.	den eerigen.
Go to hin	n !	Geben Gie gu ihm!	Gayen see tsoo eem!		-, -	•
Go to bed		Geben Sie ju Bette!	Gayen see tsoo bettay!		A MORNING CALL	
Fetch it!		Solen Sie es!	Holen see es!	There is a knock.	Ge flopft.	Es klupft.
Bring it!		Bringen Gie es!	Bringen see es!	It is Mr. A.	Ge ift herr A.	Es ist hair ah.
Bring it t		Bringen Sie es mir!	Bringen see es meer!	It is Mrs. B.	Es ift Frau B.	Es ist frow bay. Ich froyay mich see tsoo
Let it be	ı	Laffen Sie es fein!	Lassen see es sine!	I am glad to see you.	feben.	sayen.
	EVI	ERY-DAY UTTERAN	CES.	Pray be seated.	Bitte fegen Sie fic.	Bittay setsen see sick.
Tell me!		Sagen Ste mir.	Saagen see meer.	What news is there?	Bas gibt's Reues ?	Vas geepts noyes?
If you ple	ease.	Gatigft-gefälligft.	Geetigst-gayfelligst.	Good news.	Gute Radrichten.	Gootay nachrichten.
	goodness.	Daben Sie bie Gute.	Haaben see dee geetay.	Do you believe it?	Glauben Sie es?	Glowben see es?
Yes, sir.		Ja, mein herr.	Yah, mine hair.			Ich glowbay kine vort
Yes, mad	lam.	Ja, Mabam.	Yah, madam.	of it.	bavon.	daafun. [so.
No, sir.		Rein, mein herr.	Nine, mine hair.	I think so.	Ich bente (glaube) fo.	Ick denkay (glowbay)
No, mada No, miss		Rein, Mabam. Rein, mein Fräulein.	Nine, madam. Nine, mine froyline.	I think not,	36 bente nicht.	Ich denkay nicht. Vair hat es eenen ge-
			Shprecken see doytsh	Who told you?	fagt?	saagt?
or Fren		ober Frangofifc ?	oder frantsæsish?	It is true.	Es ift wahr.	Es ist var.
		• • • • • • • • • • • • • • • • • • • •	Ich shprecke nicht	I doubt it.	3d bezweifie es.	Ich baytsviflay es.
man.		€ , ,,,,	doytsh.			Haaben see fun how-
	and it, but de	36 verftebe es, aber ich	Ich fershtayay es, aaber	home?	gehört ?	say gayhært?
not spe	ak it.	fpreche es nicht.	ich shpreche es nicht.			Dair breeftrayger
I speak I		36 fpreche Englifd.	Ich shpreche english.	me a letter to-day.	mir heute einen Brief.	
I speak F	rench a little		Ich shpreche ine vaynig		er e e . e	inen breef.
		Frangofisch.	frantsœsish.	Sad news.	Solecte Radricten.	Shlechtay nachrichten.

PRONUNCIATION.

ENGLISH.	GERMAN.	PRONUNCIATION.
Will you dine with us?	Bollen Sie mit uns fpeifen?	Vullen see mit oons shpisen?
No, thank you. I cannot stay.	Rein, ich bante Ihnen. Ich tann nicht bleiben.	Nine, ich daanke eenen. Ich kann nicht blyben.
		See sind in grosser ilay.
I have a great deal to do.	3ch habe viel zu thun.	Ich haabay feel tsoo toon.
PL] What!	EASURE AND REG	
Is it possible!	Was!	Vas!
Can it be!	Ift es möglich! Rann es fein!	Ist es mæglich! Kan es sine!
	Bie fann es möglich fein	! Vee kan es mæglick sine!
Who would have be-	Ber marbe ba 3 geglaubt	Vair veerday das ge-
lieved it! Indeed!	haben ! Birflich !	glowpt haaben! Veerklich!
It is impossible!	Es ift unmöglich!	
That cannot be!	G8 tann nicht fein!	Es ist oonmæglich! Es kan nicht sine!
	3d muntere mich bar= uber!	Ich voonderay mich daareeber.
You surprise me!	Cie überrafchen mich!	See eeberrashen mich.
It it incredible!	Ge ift unglaublich!	Es ist oonglowblich !
I am very sorry.	G8 thut mir febr leib.	Es toot meer sair lite.
What a pity!	Bie fcate!	Vee shahday!
It is a great pity. It is a sad thing.	G8 ift febr fcate.	Es ist sair shahday.
	Sache.	Es ist inay trowrigay sachay.
	glūd!	Es ist ine grosses oon- glick.
I am glad of it.	36 freue mich barüber.	Ich froyay mich dar- eeber.
I am glad.	Ge ift mir lieb.	Es ist meer leeb.
It gives me pleasure.	Ge macht mir Bergnus gen.	Es macht meer fergnee- gen.
It gives me great joy.	Es macht mir große Freute.	Es macht meer grossay froyday.
I am happy.	3d bin gludlic.	Ich bin gleeklich.
How happy I am!	Bie gludlich ich bin!	Vee gleeklich ich bin!
I wish you joy.	36 muniche Ihnen Glud.	Ich vinshay eenen glick.
I congratulate you.	36 gratulire Ihnen.	Ich gratooleeray eenen.
A	NGER AND BLAM	E.
I am angry.	36 bin argerlich.	Ich bin airgerlich.
He is angry.	Er ift argerlich.	Air ist airgerlich.
Don't be angry.	Iiφ.	Syen see nicht airger- lich.
You are wrong. You are right.	Sie haben Unrecht. Sie haben Recht.	See haaben oonrecht.
Why don't you do it?		See haaben recht. Varoom toon see es nicht?
Be quiet!	Seien Gie rubig!	Syen see rooig!
What a shame!	Beide Schande!	Velchay shanday!
How could you do it?	thun ?	Vee kunten see es toon?
I am ashamed of you!	36 fcame mich Ihrer!	Ich shamay mich eerer!
You are very much to blame.		See sind sair tsoo taadeln.
Be patient! I will improve.	Gebulben Sie Sich! Ich werbe mich beffern.	Gaydoolden see sich! Ich vairday mich bes-
	AGE.	sern.
How old are you?	Bie alt finb Cie?	Vee alt sind see?
	Ich bin zwanzig Jahre alt.	Ich bin tsvaantsig yah- ray alt.
•		

GERMAN.

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,			
l	ENGLISH,	GERMAN.	PRONUNCIATION.
١	i shall soon be thirty.	fein.	Ich vairday bald drysig sine.
l	He looks older. She is younger.	fein. Er ficht alter aus. Sie ift junger.	Air seet elter owse.
l	She cannot be so	Sie tann nicht fo jung	See ist yinger. See kann nicht so yoong
l	young.	fein.	sine.
ı		Gr muß alter fein.	Air moos elter sine.
١	I did not think you were so old.	3ch glaubte nicht bag Sie fo alt feien.	Ich glowptay nicht das see so alt syen.
۱			Air ist vanigstens sech-
l		şig.	tsig.
I	How old is your father?	Wie alt ift Ihr Bater ?	Vee alt ist eer fahter?
l		Gr ift beinabe achtgia.	Air ist bynahay achtsig.
١	Is he so old?		
١	Is he so old? A great age. He begins to grow old.	Gin bobes Alter.	Ine hohes alter.
١	He begins to grow old.	ben.	Air fengt an alt tsoo vairden.
١	How old is your sister?	Wie alt ift Ihre Schwes fter?	Vee alt ist eeray shves- ter?
	She is fifteen.	•	See ist finftsain.
١		A MORNING CHA	r.
١			
l	An early morning. It is a fine morning.		Ine freer morgen. Es ist ine shæner mor-
١		gen.	gen.
ı	What o'clock is it?	Bas ift bie Uhr ?	Vas ist dee oor?
	It is nearly eight.	Ge ift beinahe acht Uhr.	Es ist bynahay acht oor.
	Light the fire.	Bunben Sie bas Feuer an.	Tsinden see das foyer an.
١		36 will auffteben.	
l	Get me some hot water.	Bringen Sie mir etwas beifes Waffer.	Bringen see meer etvas hises vasser.
ŀ	Some dinking-water.	Gimas Trinimaffer.	Etvas trinkvasser.
I	Make haste.	Ctwas Trintwaffer. Machen Sie fcnell.	Machen see shnell.
١	There is no towel.	Es ift fein Danbtuch ba.	Es ist kine haandtooch dah.
١	Bring me some soap.	Bringen Sie mir Seife.	Bringen see meer sifay.
١	I want to wash myself.	36 muniche mich gu mafchen.	Ich vinshay mich tsoo vashen.
١	How have you slept?		Vee haaben see ge- shlaafen?
١	Did you sleep well?	Saben Sie gut gefchla:	Haaben see goot ge-
	Very well, thank you.	fen? Sehr gut, ich bante Ih= ren.	shlaafen? Sair goot, ich dankay eenen.
l	Not very well.	Richt febr gut.	Nicht sair goot.
١	I could not sleep.	36 tonnte nicht folafen.	Ich kuntay nicht shlaa- fen.
l	T Air-d f	Of man to milhe wan han	
	travelling.	Reife.	Ich var so meeday fun dair risay.
1	AT T	HE BREAKFAST T	ABLE.
	Breakfast is ready.	Das Frühftud ift fertig.	Das freeshtick ist fair- tig.
١	Come to breakfast.	Rommen Ste jum Fruh: ftud.	Kummen see tsoom freeshtick.
	Let us breakfast.		Lassen see oons free-

~ m 0 0 1 4 1 m 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	tig.
Rommen Sie jum Fruh: ftud.	Kummen see tsoom freeshtick.
Laffen Gie uns fruh: ftuden.	Lassen see oons free- shticken.
Rocht bas Waffer?	Kucht das vasser?
3ft ber Thee fertig?	Ist dair tay fairtig?
Beben Sie mir eine Laffe Thee.	Gayben see meer inay tassay tay.
Gine Taffe Raffee.	Inay tassay kaffay.
Gin Mild brob.	Ine milchbrote.
Trinfen Sie Thee ober Raffee?	Trinken see tay oder kaffay?
	Rommen Ste jum Früh- ftud. Laffen Sie uns früh- ftüden. Rocht bas Waffer? Ift ber Thee fertig? Geben Sie mir eine Taffe Thee. Gine Taffe Raffee. Gin Mild brob. Trinfen Sie Thee ober

	ENGLISH.	GERMAN.	PRONUNCIATION.	ENGLISH.	GERMAN.	PRONUNCIATION.
'	Will you take an egg?	Bollen Ste ein Gi effen?	Vullen see ine eye es-	Change the plates.	Bedfein Sie bie Teller.	Veckseln see dee teller.
	774 · · · · · · · · · · · · · · · · ·	@1.4. @1 8.h. 41	sen?	I want a spoon.		Ick vinshay inen læffel.
	These eggs are hard. Give me the salt.		Deesay eyer sint hart. Gayben see meer das	Are you hungry?	Sinb Sie hungrig'	Sind see hoongrig?
•	Oive me the sait.	Calz.	salts.	Not very.	Richt febr.	Nicht sair.
1	Pass me the butter.		Rychen see meer dee	I am hungry. You do not eat.	36 bin hungrig. Sie effen nicht.	Ick bin hoongrig? See essen nickt.
		Butter.	bootter.	I am very thirsty.	36 bin febr burflig.	Ich bin sair doorstig.
]	Bring some more but-		Bringen see meer etvas	I am dying of thirst.	36 fterbe vor Durft.	Ich stairbay for doorst.
	ter.	mehr Butter.	mair bootter.			Naymen see ine glass
•	Give me a spoon.	Geben Gie mir einen	Gayben see meer inen	•	Bein.	vine.
		Löffel.	lœffel.	Give me something to	Geben Gie mir etwas	Gayben see meer etvas
1			Ist dair kaffay shtaark	drink.	gu trinten.	tsoo trinken.
,	enough?	nug?	gaynoog?	I want some beer.	36 muniche Bier.	Ick vinshay beer.
	We want more cups.		Veer browchen mair tassen.			
,	Take some more su.	fen. Dehmen Sie nach etwas	Naymen see nuck etvas	TAL	K AT THE TEA TA	ABLE.
•	gar.	Ruder.	tsoocker.			
•	Cold meat.	Raltes Fleifc.	Kaaltes flyshe.	Tea is quite ready.	Der Thee ift gang fertig.	Dair tay ist gants fair-
	The table-cloth.	Das Tijdind.	Das tishtoock.			tig.
-	The sugar-basin.	Die Buderbuchfe.	Dee tsookerbiksay.	They are waiting for	Man martet auf Gie.	Man vaartet owf see.
(Chocolate.	Chotolabe.	Chocolahday.	you.	04 1	* . * . *
	A knife.	Gin Meffer.	Ine messer.	I am coming.	36 tomme.	Ich kummay.
	A fork.	Gine Gabel.	Inay gahbel.	Bring a saucer.	taffe.	Bringen see inay oon- tertassay.
	The knife is blunt.		Das messer ist shtoompf.	Pour out the tea.		Shenken see dane tay
,			Veer sind mit dame	I out out the ten	ein.	ine.
,	fast. Von son toke smen	ftud fertig.	freeshtick fairtig.	The tea is very strong.		Dair tay ist sair shtark.
,	the things.	forinehmen.	See kænnen dee sa- chen fortnaymen.	It is very weak.	Er ift febr fomad.	Air ist sair shvack.
	the things,	lacenchment	then forthaymen.	A slice of bread and	Gin Studden Butter:	Ine shtickeken bootter-
		DINNER.	ł	butter.	brob.	brote.
1	Have you ordered din •	Saben Sie bas Gffen be-	Haaben see das essen	Hand the plate.		Gayben see meer dane
	ner?	ftellt 9	baystellt?		ler.	teller.
1	I will order dinner.	36 merbe bas Diner	Ick vairday das deenay		Bunfoen Ste Ruchen ?	Vinshen see koochen?
		bestellen.	bayshtellen.	cake? A small piece.	Cin Citadan	Too obtich stan
			Tsigen see meer dee	Make more toast.	Gin Studden.	Ine shtickeben. Ræsten see mairbrote.
,	fare. Waiter.	Speifetarte.	shpisaykartay.	Make haste.	Machen Sie fonell.	Machen see shnell.
		Redner.	Vas feer sooppay vin-	This is good tea.	Dies ift guter Thee.	Dees ist gooter tay.
	have?	foen Sie?	shen see?	The tea-tray.	Der Brafentirteller.	Dair praysenteerteller.
1	Rice-soup.	Reisfuppe.	Ricesooppay.	A set of tea-things.	Das Theefervice.	Das taysairveece.
1	Have you any roast		Haaben see rinder-	Have you finished?	Sind Sie fertig?	Sind see fairtig?
	beef?	braten ?	braaten?	Take another cup.		Naymen see nuck inay
•	We have very fine fish.	Bir haben febr guten	Veer haaben sair goo-		Laffe.	tassay.
		816.	ten fish.	Brown bread. White bread.	Schwarzes Brob.	Shvaartses hrote. Vices brote.
	Trout.	Forellen.	Forellen.	Stale bread.	Beißes Brob. Altes Brob.	Altes brote,
	Fried pike.	Gebratene Bechte.	Gebraatenay hechtay.	New bread.	Frifches Brob.	Frishes brote.
	Roast mutton. What wine will you	Dammelbraten. Mas für Mein manichen	Hammelbraaten. Vas feer vine vinshen		014	
	have?	Sie?	see?		BED TIME.	
1	Let us see.	Laffen Sie feben.	Lassen see sayen.		-	
			Heer ist dee vinekar-	It is late.	Es ift spät.	Es ist shpate.
			tay.	What o'clock is it?	Bas ift bie Uhr?	Vas ist dee oor?
•			Oom velchay tsite vin-	It is still early. Are you tired?	Ge ift noch frub. Sinb Sie mube ?	Es ist nuck free. Sind see meeday?
,	dine?	Sie gu fpeifen ?	shen see tsoo shpisen?	Not at all.	Gar nicht.	Gar nicht.
	o'clock.		Veer vairden oom sex	Not much.	Richt febr.	Nicht sair.
1	Be punctual.	Uhr fpeifen. Seien Sie punktlich.	oor shpisen.	It is only ten.	Ge ift erft gebn.	Es ist airst tsane.
	Help yourself.	Bebienen Sie fic.	Syen see pinktlich. Baydeenen see sich.	· ·		Es is tsite tsoo bett tsoo
	It is excellent.	Gs ift portrefflic.	Es ist foretrefflich.		geben.	gayen.
		Die beutiche Ruche ges	Dee doytshay keechay	It is a fine evening.		Es ist ine shæner ah-
	ery.	fallt mir.	gefellt meer.			bend.
1	I do not like foreign	Die auslandifche Ruche	Dee owslendishay kee-	It is moonlight.	Ge ift Monbichein.	Es is mohndshine.
	cookery.	fdmedt mir nicht.	chay shmeckt meer	Is my room ready?	3ft mein Bimmer fertig?	Ist mine tsimmer fair-
,	Do vou taka nanasa	Mahman Ele Meitter	ni <i>ch</i> t.	01	Ola Oatan	tig?
	Do you take pepper? No, thank you.	Mein, ich bante.	Naymen see pfeffer?	Sheets.	Die Laten.	Dee laaken.
	Yes, if you please.	Ja, ich bitte.	Nine, ich dankay. Yah, ich bittay.	A blanket.	Gine wonene Beitbede.	Inay vullenay bett- deckay.
		Geben Cie mir ben	Gayben see meer dane	Good-night.	Gute Ract.	Gootay nacht.
		Senf.	senf.	Are you sleepy?	Sind Ste folafrig?	Sind see shlayfrig?
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***	e hour or the r	AI.
English.	GERMAN.	PRONUNCIATION.
What o'clock is it?	Bas ift bie Uhr ?	Vas ist dee oor?
My watch has stopped.	Meine Uhr ftebt.	Minay oor shtate.
It does not go.	Sie geht nicht.	See gayt nicht.
I forgot to wind it up.	3ch vergaß fie aufgus gieben.	Ich vairgaass see owf- tsootseen.
My watch is too fast.	Meine Uhr geht vor.	Minay oor gayt fore.
It is too slow.	Sie geht nach.	See gayt nach.
slow.	Sie ift fünf Minuten gu fpat.	See ist finf minooten tsoo shpate.
It goes right,	Sie geht richtig.	See gayt richtig.
One o'clock.	Gin Uhr.	Ine oor.
•		Finf minooten nach tsvi.
A quarter past three.		Ine feertel owf feer.
Half-past four.	Balb fünf.	Haalb finf.
A quarter to five.	Drei viertel auf funf.	Dry feertel owf finf.
Just six o'clock.	Gerabe feche Uhr.	Gayraaday sex oor.
seven.	fieben.	Tsvaantsig minooten fore seeben.
		Es hat ayben acht ge-
eight.	gen.	shlaagen.
Noon.	Mittag.	Mittaag.
Midnight.	Mitternacht.	Mitternacht.
	THE PROMENADE	
Shall we take a walk?		Vullen veer inen
	giergang machen?	shpaatseergang ma- chen?
Yes, let us walk.	Ja, wir wollen ausges ben.	Yah, veer vullen ows- gayen.
Where shall we go?		Vo vullen veer hin- gayen?
On the high road,	Muf bie Chauffee.	Owf dee shossay.
There is a good deal of dust.	Ge ift bort fehr ftaubig.	Es ist dort sair shtou- big.
Into the fields.	Auf bie Felber.	Owf dee felder.
They are reaping.	Man erntet.	Man airntet.
They are making hay.	Ge ift Benernte.	Es ist hoyairntay.
	Geruch !	Vas feer ine ange- naymer gayrooch!
		Machen veer inay
into the town.	nabe in bie Stabt.	prummenahday is dee shtadt.
What street is that?	Straße?	Vas ist das feer may shtraassay?
Where does it lead to?		Vo feert see hin?
Handsome shops.	Soone Laben.	Shœnay laden.
Bad pavement.	Schlechtes Bflafter.	Shlechtes pflaster.
soldiers?	Solbaten ?	Sind dees proyssishay soldaaten?
		Vo ist dec kænigstraas- say?
Straight before you.	Bor Ihnen.	Fore eenen.
To the left hand.	Linter Band-linte.	Linker hand-links.
To the right hand.	Rechter Sanb-rechts.	Rechter hand-rechts.
here?	hier ?	Ist das dorf vite fun here?
About a mile.	Ungefähr eine Meile.	Oongayfare inay milay.
A good hour.	Gine gute Stunte.	Inay gootay shtoonday.
Hardly a mile.	Raum eine Meile.	Kowm inay milay.
Half a mile.	Gine halbe Meile.	Inay halbay milay.

PERSONAL INQUIRIES.

Do you know Mr. F.? Rennen Sie Herrn F.? Kennen see hairn F?

I do not know any- 3ch tenne Miemand bie: Ich kennay neemaand body of that name.

Does he live here? Bohnt er hier? Vohnt air here?

THE HOUR OF THE DAY.

ENGLISH.	GERMAN,	PRONUNCIATION:
He lives in this house.	Er wohnt in biefem Saufe.	Air vohnt in deesem howsay.
Where?	903 o ?	Vo?
On the first floor.	3m erften Stod.	Im airsten shtuck.
I know him,	36 fenne ibn.	Ich kennay een.
Intimately.	Genau.	Gaynow.
I am very intimate with him.	3d bin mit ibm febr ins tim.	Ick bin mit eem sair inteem.
He is my friend.	Er ift mein Freund.	Air ist mine froind.
I have known him a long time.	36 habe ibn lange ge-	Ich haabay een laangay gekant.
Where does he live?	Wo wohnt er ?	Vo vohnt air?
He lives in Broad street, No. 3.		Air wohnt in dair bry- ten shtraassay noo- mero dry.
When is he at home?	Wann ift er gu Saufe ?	Van ist air tsoo how- say?
In the morning.	Des Morgens.	Des morgens.
In the evening.	Des Abenbe.	Des ahbends.
He lives close by.	Gr wohnt nahe bet.	Air vohnt nahay by.
Is it far?	Ift es weit ?	Ist es vite?
Can you direct me to his house?	Ronnen Sie mir fein Saus zeigen?	Kænnen see meer sine house tsigen?
I will show you where he lives.	3d werbe Ihnen zeigen mo er mobnt.	Ich vairday eenen tsi- gen vo air vohnt.
That is the market.	Das ift ber Martt.	Das ist dair markt.
This is the street.	Dies ift bie Strafe.	Dees ist dee shtraassay.
The square.	Der Blat.	Dair plats.
This is his house.	Dies ift fein Dans.	Dees ist sine house.
Here he lives.	Sier wohnt er.	Heer vohnt air.

TH	E TALK OF TRAV	EL.
Are you going to Ger- many?	Geben Ste nach Deutsche lanb ?	Gayen see nack doytsh- land?
I intend to go to the Rhine.		Ich gaydenkay an den Rhine tsoo gayen.
When do you think of going?	Bann gebenten Ste ju reifen ?	Van gedenken see tsoo risen?
How long shall you stay?	Bie lange werben Sie fic aufbalten ?	Vee langay vairden see sick owfhalten?
About a month.	Ungefähr einen Monat.	Oongayfair inen moh- nat.
I set out to-morrow.	36 reife morgen ab.	Ich risay morgen ap.
Have you made all	Baben Sie alle Ihre	Haaben see allay eeray
your preparations?	fen ?	forkayrungen getruf- fen?
	Mues ift fertig.	
		Ich vairday mit dair
to Dover.	bahn nach Dover fah: ren.	fahren.
The train starts in ten minutes.	Der Bug geht in gehn Minuten ab.	Dair tsoog gayt in tsane minooten ab.
I want a ticket for Cologne.	36 muniche ein Billet nach Roln.	Ich vinshay ine bilyet nach Kæln.
First-class.	Grfte Rlaffe.	Airstay klassay.
The express train.	Der Schnellzug.	Dair shneltsoog.
The ordinary train.	Der gewöhnliche Bug.	Dair gevæhnlichay tsoog.
Where is your bag- gage?	Wo tft Ihr Gepad?	Vo ist eer gepeck?
Here it is.	Sier ift es.	Heer ist es.
The train is just going to start.	Der Bug wird fogleich abgeben.	Dair tsoog veert so- gliche abgayen.
It does not go very fast.	Ge geht nicht febr fonell.	Es gate nicht sair shnel.
Not so fast as in England.	Micht fo fonell als in England.	Nicht so shnel als in England.

ENGLISH.	GERMAN.	PRONUNCIATION.
Here is a station.	Sier ift eine Station.	Heer is inay shtatsione.
Do we stop here?	Balten wir hier an ?	Halten veer heer an?
They stop at every sta- tion.	Man halt auf jeber Stas tion an.	Man helt owf yaydair shtatsione an.
It is a long journey.	Gs ift eine lange Reife.	Es ist inay langay risay.
Yes, from ten to twelve hours.	Ja, von gebn bis zwolf Stunben.	Yah, fun tsane bis tsvelf shtoonden.
Very pretty country.	Sehr icone Gegenb.	Sair shænay gaygend.
Arrived at last.	Enblich angefommen.	Endlich angekummen.
The steamer.	Das Dampfboot.	Das dampfboat.
When do you start?	Bann gehen-Sie ab ?	Van gayen see ab?
With the tide.	Mit ber Fluth.	Mit dair floot.
Let us go down into the cabin.	Lassen Sie uns hinab in die Rajūte gehen.	Lassen see oons hinab in dee kah yeeta y gayen.
The tide is strong.	Die Fluth ift ftart.	Dee floot ist shtark.
The sea is rough.	Die See ift fturmifc.	Dee say ist shteermish.
The wind is against us	. Der Binb ift gegen une	Dair vind ist gaygen oons.
So much the worse.	Um fo folimmer.	Oom so shlimmer.
We shall have a long passage.	Bir werben eine lange Ueberfahrt haben.	Veer vairden inay lan- gay eeberfahrt haa- ben.
I feel sea-sick.	36 fühle mich feetrant.	Ich feelay mich say- krank.
The sea is getting calmer.	Das Meer wirb ruhiger.	Das mair veert rooiger.
I see land.	34 febe Lanb.	Ich sayay lant.
It is the harbor of Ost- end.	G8 ift ber Bafen von Oftenbe.	Es ist dair haafen fun Ustenday.
We have arrived.	Wir find angetommen.	Veer sind angekum- men.

DISCUSSING THE GERMAN LANGUAGE.

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Can you read German? Ronnen fen?	Sie Deutsch les Konnen see doytsh lavsen?
A little. Gin men	
	es ganj gut, aber Ich laysay es gants un es nicht spres goot, aber ich kann es nicht shprechen.
Do you speak Ger- Epreche man?	n Sie Deutsch? Shprechen see doytsh?
I do not understand it. 3d verf	tebe es nicht. Ich fershtayay es nicht.
	richt fo fonell. Man shpricht so shnel.
You have had but lit- Sie bo	ben nur wentg See haaben noor vaynig
	orache. gute See haaben inay gootay owshpraachay.
	öchwester spricht Eeray shvester shpricht läufig. es geloysig.
It is a difficult lan. Ge ift et guage. Ge.	ne ichwere Spras Es ist inay shvayray shpraachay.
You will learn it soon. Sie men.	then e6 balb lers See vairden es bald lairnen.
	cht man das be: Vo shpricht man das eutsch? bestay doytsh?
In the North of Ger. 3n Normany.	bbeutschland. In norddoytshland.
I find the pronuncia- 3ch fint tion easy. leicht.	e bie Aussprache Ich finday dee ows- shpraachay liecht,
	bem Englischen Es ist daim englishen ihnlich. sair ainlich.
Yes, the German lan- 3a, ti	e beutsche Spras Yah, dee doytshay bie Mutter ber shpraachay ist dee

ENGLISH.	GERMAN.	PRONUNCIATION.
It is the most useful (38 ift bie nühlichste unb	Es ist dee nitslichstay
and interesting lan-		oont interessantestay
guage for an Ameri-	bie ein Ameritaner	shpraa <i>ch</i> ay dee ine Amayrikahner lair-
can to learn.	lernen fann.	nen kann.
MIN WE	THER AND THE	SEASONS.
	Der Frühling ift ba.	Dair freeling ist dah.
Spring has come. Spring begins well.	Der Frühling fangt gut	Dair freeling fengt goot
ohime agent war.	an.	an.
It is rather mild.	G8 ift ziemlich gelinbe.	Es ist tseemlich gelin-
74.11	Ge ift Frühlingewetter.	day. Es ist freelingsvetter.
It is spring-reather.	Die Raume fangen an	Dee boymay fangen an
ning to bud.	auszuichlagen.	owstsooshlaagen.
The season is very for-	Die Jahreszeit ift febr	Dee yahrestsite ist sair
ward.	vorgerüdt.	forgayrickt. Es ist so angenaym.
It is so pleasant. The sun is so warm.	Ge ift fo angenehm.	Dee sunnay ist so varm.
There are some flow-	Ge giebt einige Blumen.	Es geebt inigay bloo-
ers.		men.
Snowdrops.	Soneeglodden.	Shnaygiœckchen.
Tulips.	Tulpen.	Toolpen. Heeahtsinien.
Hyacinths. Gather some.	Spacinthen. Bflüden Sie welche.	Pflicken see velchay.
As many as you please.	So viel Ihnen beliebt.	So feel eenen beleebt.
The season is very	Die Jahreszeit ift febr	Dee yahrestsite ist sair
backward.	gurud.	tsoorick. Dair summer kumt.
Summer is coming. It is becoming warm.	Der Sommer tommt. Es wirb warm.	Es veert varm.
It is too warm.	Ge ift ju marm.	Es ist tsoo varm.
It is almost hot.	Ge ift faft beiß.	Es ist fast hice.
It is a splendid day.		Es is ine voondershæ-
Mt - t A t A	Tag. Die Dige ift groß.	ner tag. Dee hitsay ist gross.
The heat is great. The heat is unbears.	Die Dige ift unertraglich.	Dee hitsay ist coner-
ble.	Cte Grae ele muerre Berrie	trayglich.
It is very close.	Ge ift febr brudenb.	Es ist saire drickend.
		Ich glowbay veer vair- den inen shtoorm haa-
a storm.	einen Sturm haben.	ben.
The clouds are gather-	Die Wolfen gieben fic	Dee vulken tsee-ensick
ing.	zusammen.	tsoosammen.
I hear thunder.	Ich bore Donner.	Ich hæray dunner. Es dunnert shrecklich.
It thunders fearfully. It lightens.	Es bonnert foredlich. Es bligt.	Es blitst.
How it rains!	Bie es regnet!	Vee es raygnet.
The sky begins to	Der himmel flart fich	Dair himmel klairt sich
clear.	auf.	owf. Dair raygen hært owf.
The rain ceases. There is a rainbow.	Der Regen bort auf. Da ift ein Regenbogen.	
The sun breaks out.	Die Sonne bricht burch.	Dee sunnay bricht
		door <i>ch</i> .
Summer is over.		Dair summer ist force- ber.
The heat is past.	ber. Die Dipe ift vorbei.	Dee hitsay is forbye.
The leaves are begin.	Die Blatter fangen an	Dee bletter fangen an
ning to fall.	abzufallen.	abtsoofallen.
The days are still fine.	Die Tage find noch fcon	Dee tahgay sind nuch
m	Die Tose nehmen oh	shoen. Dee tahgay naymen ab.
Autumn is interesting	Der Berbft ift intereffan	Dair hairbst ist interes-
on the Rhine.	am Mbein.	sant am Rhine.
		Es ist dee tsite dair
vintage.	lefe.	vinelaysay. Vee glicklick dee loytay
How happy the peo-	find.	sind.
We must soon begin	Bir muffen balb bie	Veer missen bald dee
fires.	Defen beigen.	æfen hitesen.

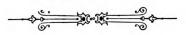
English.	GERMAN.	PRONUNCIATION.
We have had a fire al-	Bir haben foon ein	Veer haaben shone ine
ready.	Feuer gehabt.	foyer gehaabt.
It is soon dark.	Es ift balb buntel.	Es ist bald doonkel.
It is a fine night.	Ge ift eine fone Ract.	Es ist inay shœnay nacht.
Is it moonlight?	3ft es Monbicein ?	Ist es mohntshine?
It is full moon.	Gs ift Bollmond.	Es ist fulmohnt.
New moon.	Reumonb.	Noymohnt.
Do you think it will rain?	Glauben Sie baß es regs nen wirb ?	Glowben see das es raygnen veert?
I am afraid so.	36 befürchte es.	Ich befeerchtay es.
It hails.	Es hagelt.	Es hangelt.
It rains.	Ge regnet.	Es raygnet.
It is very windy.	Ge ift febr minbig.	Es ist sair vindig.
It is winter,	Ge ift Binter.	Es ist vinter.
The days are so short.		Dee tahgay sind so koorts.
It is very cold.	G8 ift febr falt.	Es ist sair kalt.
There is a cold wind.	Ge gebt ein talter Binb.	Es gayt ine kalter vind.
It is bad weather.	Ge ift foledtes Better.	Es ist shlecktes vetter.
It is foggy.	Ge ift nebelig.	Es is naybelig.
The sky is overcast.	Der himmel ift bebedt.	Dair himmel ist be- deckt,
It will snow.	Es wirb foneien.	Es vird shnyen.
It freezes very hard.	Ge friert fart.	Es freert shtark,
Can you skate?		Kænnen see shlitshoo lowfen?
The ice does not bear.	Das Gis trägt nicht.	Das ice trayet nicht.
The ice is thick enough.	Das Gis ift bid genug.	Das ice ist dick genoog.
It is healthy weather.	Es ift gefunbes Wetter.	Es ist gesoondes vet- ter,

english.	GERMAN.	PRONUNCIATION.
It thaws.	Es thaut.	Es towt.
It is slippery.	Es ift foldpfrig.	Es ist shlipfrig.
The ice is thawing.	Das Gis geht auf.	Das ice gayt owf.
The streets are very wet and dirty.	Die Strafen finb febr nag und fomutig.	Dee shtraassen sind sain nass oont shmootsig
Christmas.	Beibnachten.	Vynachten.
New Year.	Reujahr.	Noiyahr,
New Year's day.	Renjahrstag.	Noiyahratag.
A new year.	Gin neues Jahr.	Ine noyes yahr.
RELATI	NG TO CORRESPO	NDENCE.
Ink.	Tinte.	Tintay.
Pens.	gebern.	Faydern.
Have you any envel- opes?	Saben Sie Couverts?	Haaben see coovairts?
Postage stamps.	Boftmarten.	Postmarken.
I want a sheet of writ- ing paper.	36 brauche einen Bogen Schreibvapier.	Ich browchay inen bo gen shribepapeer.
	Lofdpapier.	Lœshpahpeer.
	36 habe einen Brief gu fcreiben.	
A pen-knife.	Gin gebermeffer.	Ine faydermesser.
Now I will write.	Jest will ich foreiben.	Yetst vill ich shryben.
What is the day of the month?	Den wievielften haben wir heute ?	Den veefeelsten haaber veer hoytay?
It is the sixteenth,	Ge ift ber fechegebute.	Es ist dair sextsanetay
Where is the post-of-fice?		Vo ist dee pust?
Close by.	Rabe bei.	Nahay by.
Take care of the letter.		





A Simple System of Self-Instruction in the French Language.





MATTER of vital importance to all is the study of the French language. Not to mention the richness of French literature and the vast pleasures which arise from an intelligent perusal of the pages of the great authors who have built

the great authors who have built it up, the practical advantages to be derived from a knowledge of "the language of diplomacy" are too patent to require explanation. No one can be a perfect master of the English language who does

not possess a certain amount of familiarity with the French tongue, through which so many of our strongest expressions have been filtered after leaving the more ancient parent stock. The traveller making the tour of the continent of Europe will find a knowledge of the French language indispensable. In all parts of that continent this language provides the common ground upon which men of all tongues meet in conversation, and the traveller, having simply made himself sufficiently familiar with the language to ask for what he wants, will have done much towards making his trip thoroughly enjoyable and instructive. The following system of self-instruction has been formulated with a view to providing a simple yet thorough means

of studying French. The student who masters its details with care will, within the space of a very few days, find himself able to converse in that language, and begin to enjoy thoroughly the beauties of its literature.

ALPHABET AND PRONUNCIATION.

FRENCH ALPHABET.	NAME.	PRONUNCIATION.	
A	ah	like a in the English word arm.	
B	bay	as in English.	
С	say	before e and i, is pronounced like s; before a, o, u and before a consonant c sounds like k; is soft before a, o, u in certain instances, when a mark beneath it called a cedilla is used, thus: c.	
D	day	as in English.	
E	ai	e, e, ai, ei, are pronounced like a in the English word care.	
F	eff	as in English.	
G	jay	before e and i sounds like j.	
H	aash	is generally silent.	
I	ee	like e in the English word we.	
7	jee	like s in the English word measure.	
K	kah	as in English.	
L	el	as in English.	
M	em	as in English.	
N	en	as in English.	
0	O	o, in stock; au, eau, are pron. like o in no.	
P	pay	like the English, but is often mute at the end of words.	
Q	ku	like k.	
R	air	like the English r in run.	
S	ess	like the English s, sometimes like s.	
T	tay	like t in the English word tent.	
U	eeyu	like u in the English word suite.	
V	vay	like the English v.	
X	eeks	as in English.	
r	egrec	like e in the English word we.	
Z	zed	like a soft s.	

There are combinations of letters which are sometimes called compound vowels, viz.: an, in, on, eu, ou, which are pronounced as follows:

The compound vowel an as an in the word want.

" " anchor.
" " wrong. in as an " " ON 25 ON

un has no correspondent in English. en as i in the word bird.
on as on " you.

Ch is pronounced generally as sh in the word share.

Gn like ni in the word minion.

Gu is pronounced generally like g in get.

Ph as ph in philosophy.

Qu is generally pronounced like k in king.

Th like th in Thames.

ACCENTS AND OTHER MARKS.

The French make a frequent use of certain signs called ORTHO-GRAPHIC SIGNS. They are the accents, the apostrophe, the trait d'union (hyphen), the trema (diæresis), the cedille (cedilla), the parenthèse (parenthesis), and the different marks of punctuation.

There are three accents, the accent aigu (acute'), which is never used except over the vowele; the accent grave (`), which is used over the vowels a, e, u, and the accent circonflexe (1), which is used with any of the vowels but y.

The apostrophe (') is used to point out the elision of a vowel at the end of a word before another word beginning with a vowel or an & mute, as in Pame, the soul; Phomme, the man, instead of la ame, le homme.

A, e, i, are the only vowels liable to be thus cut off, and this last one in the single word si before il; s'il for si il.

The trait d'union (.) is used principally to connect compound words, as in arc-en-ciel (rainbow), or to join the pronoun to the verb, in the interrogative conjugation.

The trema (") is the same sign as the diæresis and used for the same purpose in French as in English.

The cedille is a little mark put under the c (c) whenever it is required to give to that letter the articulation produced by the letter s, before the letters a, o, u; as, Français, garçon, reçu.

NUMBER AND GENDER.

There are two numbers in French as in English, the singular and the plural.

The French language has only two genders, the masculine and the feminine. The gender of animate objects is the same as in English; but practice, close attention to the harmony of the language, and very often derivation, can alone teach the gender of inanimate objects.

PARTS OF SPEECH.

These are ten in number: article, noun, adjective, pronoun, verb, adverb, participle, conjunction, preposition, interjection.

THE ARTICLE.

There are two articles, the definite and the indefinite. The definite article is rendered by "" before a masculine noun, and by "la" before a feminine noun; as, le père, the father; la mère, the mother. The plural for both genders is "les;" as, les pères, the fathers; les mères, the mothers.

The articles are declined as follows:

	Mascuine	•	
Singular.	1	Plura	·/.
Nom. le (leh) père, ti Gen. du (du) père, to Dat. au (0) père, to Acc. le (leh) père, ti	he father les des the father aux he father les	(lay) pères, (day) pères, (o) pères, (lay) pères,	the fathers of the fathers to the fathers the fathers
	Feminine	•	
Nom. la mère, the	mother les	mères. the n	nothers

	of the mother	1	the mothers of the mothers
	to the mother the mother	aux mères,	to the mothers

DECLENSION

Of a word beginning with a vowel or a silent "k."

Singular.		Piurai.		
Nom.	Phomme,	the man	les hommes,	the men .
Gen.	de l'homme,	of the man	des hommes,	of the men
Dat.	à l'homme,	to the man	aux hommes,	to the men
Acc.	Phomme,	the man	les kommes,	the men

INDEFINITE ARTICLE.

Feminine.

Nom.	un jardin,	a garden	une ville,	a town
Gen.	d'un jardin,	of a garden	d'une ville,	of a town
Dat.	à un jardin,	to a garden	a une ville,	to a town
Acc.	un jardin.	a garden	une ville,	a town

DECLENSION OF PROPER NAMES.

Nom.	Paris,	Paris	Louise,	Louisa
Gen.	de Paris,	of Paris	de Louise,	of Louisa
Dat.	à Paris,	to Paris	à Louise,	to Louisa
Acc.	Paris.	Paris	Louise.	Louisa

EXERCISES IN THE USE OF THE ARTICLE.

Having mastered the declensions, the student will thoroughly familiarize himself with the use of the articles by memorizing the following vocabulary:

THE UNIVERSE.

ENGLISH.	FRENCH.	PRONUNCIATION.
God	Dieu	Decyu
the world	le monde	leh maund
the sky	le ciel	leh seeyel
the sun	le soleil	leh sohleyl
the moon	la lune	lah lune
a star	une étoile	une aitoahl
the air	<i>Cair</i>	l'air
the earth	la terre	lah tayr
the water	Peau	l'o
the fire	le feu	leh feuh
the sea	la mer	lah mare
an island	une lie	une eel
a lake	un lac	ung lahe
a stream	un fleuvo	ung fleuhv
a river	une rivière	une reeveeare
the animals	les animaux	laiz aneemo
the metals	les métaux	lai maito
the gold	Por	l'orr
the silver	l'argent	l'arjang
the iron	le fer	leh fayr
the steel	l'acier	l'asseay
the copper	le cuivre	leh cweevr
the tin	l'étai n	l'aitang

	THE HUMAN B	EING.
Man	Phomme	l'omm
the body	le corps	leh cor
the head	la tète	l ah tait
the face	le visage	leh veesajo
the forehead	le front	leh frong
the eye	l'œil	l'ile
the eyes	les yeux	laiz e cyo u
the nose	le nez	leh nay
the ears	les oreilles	laiz ohraill
the chin	le menton	leh mauntong
the beard	la barbe	lah barb
the mouth	la bouche	lah boosh
the lips	les lèvres	fai layvr
the tooth	la dent	lah dong
the tongue	la langue	lah laungh
the neck	le cou	leh coo

Bread

flour

meat

beef

veal

lamb

pork

hacon

ham

soup

rice

eggs

salad

salt

oil

mustard

vinegar

pepper

butter

cheese

dinner

supper

hunger

thirst

water

wine

beer

milk

tes

gin

brandy

breakfast

mutton

roast meat

ENGLISH.	FRENCH.
the shoulders	les épaules
the arm	le bras
the hand	la main
the fingers	les doigts
the nails	les ongles
the chest	la poitrine
the heart	le cœur
the knee	le genou
the leg	la jambe
the foot	le pied
the bones	les os

PRONUNCIATION. laiz aipole leh brah lah mang lai douah laiz aungl lah pouahtreen leh keuhr leh jenoo lah jahmb leh pecay laiz o

the umbrella the parasol

ENGLISH. FRENCH. le parapluie le parasol

PRONUNCIATION. leh paraplwee leh parasol

FOOD.

le pain la farine de la viande du rôti du bæuf du veau du mouton de l'agneau du porc du lard du jambon la soupe du riz des aufs de la salade de la moutarde du sel de l'huile du vinaigre du poivre du beurre du fromage le déjeuner le diner le souper la faim la soif de l'eau du vin de la bière du lait du thé du genièvre de l'eau de vie

leh pang lah fareen de la vecaund du rotee du beuhf du vo du mootong deh l'anyo du pork du lar du jahmbong lah soup du rec daiz cuh deh lah salade deh lah mootard do sel deh l'weel du veensigr du pouahvr du beuhr du fromahie leh dayjeuhnai leh deenai leh soopai lah fahng lah souaf deh l'o du vang deh lah becair du lay du tay du jenyavr

the room the bed-room the window the wall the kitchen the roof the cellar the garden a table a chair an arm-chair a looking-glass a clock a trunk a box the bed the counterpane a pillow the sheets the mattress the plate a candlestick the lamp a spoon a fork a knife a cup the saucer the tablecloth the towel a glass the tea-pot An occupation

THE HOME. The house la maison the door la porte the key la clef la sonnette the bell the staircase l'escalier the drawing-room la salle the dining-room la salle-à-mange la chambre la chambre-à la fenttre la paroi la cuistne le toit la cane le jardin une table une chaise un fauteuil un miroir une horloge un coffre une boite le lit la converture un oreiller les draps de lit le matelas

l'assiette un chandelier une lampe une cuiller une fourchette un couteau une tasse la soucoupe la nappe un essuie-main -la thèière TRADES. lah maysong lah port lah clay lah sonnet l'escallyai lah sal lah sal-ah-maunjai lah shaumbr lah shaumbr-ah-cushai lah fennaitr lah pahrouah lah cweezeen leh touah lah caay leh jardang une tahbi une shavse ung fotavle ung meeroughr une orloje ung cofr une bouaht leh lee lah coovairtyure un oraylyai lai drah deh lee leh matlah l'assyct ung shaundelyai une laump une cweelvai une foorshet ung cooto une tass lah sooccoop lah nap ung esswee-mang ung vair lah taiyare

DRESS.

A coat un surtout un manteau a cloak a waistcoat un gilet the trowsers la culotte the braces les bretelles the cap le bonnet the hat le chapeau the comb le peigne gloves des gants a ring une bague a watch une montre the stocking le bas the boots les bottes the bootjack le tire-botte the slippers les pantoufles the shoes les souliers a shirt une chemise the necktie la cravate a pocket-handkerchief un mouchoir the clothes brush la brosse

ung syuretoo ung maunto ung jeelay lah kyulot lai bretell leh bonnay leh shapo leh paine dai gang une baag une mongtre leh bah lai bot leh teer-bot lai pauntoofl lai soolvai une shemeeze lah cravaht ung mooshouah lah bross

deh lo deh vee

un métier

a workman un arlisan a baker un boulanger a miller un meunier a butcher un boucher a brewer un brasseur a tailor un tailleur a shoemaker un cordonnier a smith un forgeron a saddler un sellier a carpenter un menuisier a mason un macon a bookbinder un relieur

The town

the bridge

the tower

the gate

the street

the market

the theatre

the post-office

the building

the town-house

THE TOWN.

la ville le pont la tour la porte la rue le marché le bâtiment l'hôtel de ville le théâtre la poste

ung cordonyai ung forjehrong ung selyai ung menweesyai ung massong ung rellyeuhr lah veel leh pong lah toor lah port lah ru leh marshay leh bahteemong

l'otel deh vecl

leh tayahtr

lah post

ung maytyai

ung arteesong

ung boolonjai

ung meuhnyai

ung brasseuhr

ung booshai

ung talveur

ENGLISH.
the church
the cathedral
the school
the prison
the exchange
the palace
the hotel
the inn
the public house
the coffee-room

PRONUNCIATION. FRENCH. l'église l'aygleeze la cathédrale lah cataydral Pécole l'aycol la prison lah preesong la bourse lah boorse le palais l'hôtel leh pallay l'otel l'obayrje l'auberge le cabaret leh cabbaray leh caffay le café

ung aneemal

TREES, FRUITS, FLOWERS AND VEGETABLES.

ENGLISH.	FRENCH.	PRONUNCIATION.
A tree	un arbre	ung arbr
a branch	une branche	une braungsh
a leaf	une feuille	une file
an apple	une pomme	une pomm
a pear	une poire	une pouar
a plum	une prune	une pryun
a cherry	une cerise	une serreeze
a nut	une noix	une nouah
a currant	de la groseille	de lah grozale
a gooseberry	de la groseille verte	deh lah grozale verte
a strawberry	une fraise	une fraize
a chestnut	un marron	ung marrong
the oak-tree	le chène	leh shane
the fir-tree	le pin	leh pang
the birch	le bouleau	leh boolo
the willow	le saule	leh sole
a flower	une fleur	une fleuhr
R rose	une rose	une rose
a pink	un œillet	un iley ai
a tulip	une tulipe	une tyul eep
a lily	un lis	ung lee
a violet	une violette	une vecolet
a bouquet	un bouquet	ung bookay
beans	des fèves	dai faive
peas	des pois	dai pouah
cabbage	des choux	dai shoo
cauliflower	des choux-fleurs	dai shoo-fleuhr
carrots	des betteraves	dai betrahve
asparagus	des asperges	daiz aspairj
spinach	des épinards	daiz aipeenar
radishes	des radis	dai raddee
celery	du céleri	du selree
a melon	un melon	ung mellong
cucumber	des concombres	dai congcongbr

ASTS, BIRDS, FISHES, ETC.

un animal

un cheval

un ane

le chien

le chat

le rat

la souris

un bæuf

un veau

une vache

une brebis

un agneau

un cochon

le lièvre

un singe

un loup

un ours

un tigre

un oiseau

une poule

un poulet

un cigne

une oie

un canard

une alouette

un rossignol

l'hirondelle

le moineau

le corbeau

l'aigle

la corneille

un poisson

un brochet un saumon

une carpe

une truite

un hareng

des huitres

une baleine

un serpent

un insecte

une teigne

une mouche

une abeille

le miel

une guepe

une araignée

un ver

une anguille

le perroquet

un coq

un éléphant

un lion

	BE
An animal	
a horse	
a donkey	
the dog	
the cat	
the rat	
the mouse	
an ox	
2 COW	
a calf	
a sheep	
a lamb	
a pig	
the hare	
a monkey	
a wolf	
a bear	
a lion	
an elephant	
a tiger	
a bird	
a cock	
a hen	
a chicken	
a swan	
a goose	
a duck	
a lark	
a nightingale	
the swallow	
the sparrow	
the raven	
the crow	
the parrot	
the eagle	
a fish .	
a pike	
a salmon	
a carp	
an eel	
a trout	
a herring	
oysters	
a crab	
a whale	
a serpent	
a frog	
a worm	
an insect	
a spider	
a moth	
a fly	

a gnat

the honey

a butterfly

a wasp

a bee

ung sheval ung ahn leh sheeang leh shah leh rah lah sooree ung beuh une vash ung vo une brebbee un anyo un coshong leh leeayvr ung sangj ung Ioo ung oor ung leeong un aylayfong ung teegr un woiso un cock une pool ung poolay ung seen une ouah ung canar une allooet ung rosseenyol l'eenrongdel leh mouano leh corbo lah cornavl leh perokay l'aygl ung pouassong ung broshay ung somong une carp une ongghee une trweet ung harrong daiz weetr une écrevisse une aycreveece une ballayn ang sairpong une grenouille une grenooeel un vair un angsect une arraynyai ung taine une moosh un moucheron ung moosherong une abbail leh meeyel une gape une papillon ung pappillyong

THE SCHOOL.

, IHE SCHOOL:		
A school	l'école	l'aycol
the teacher	le mattre	leh maytr
the book	le livre	leh leevr
the paper	le papier	leh papyai
a pen	une plume	une plyume
an inkstand	un encrier	un ongcreeai
the ink	Pencre	l'ongkr
the pencil	le crayon	leh crayong
a letter	une lettre	une lettr
an envelope	une enveloppe	une o gvellop

	TIME AND SEASONS.				
The time	le temps	leh tong			
a minute	une minute	une meenyute			
an hour	une heure	une eur			
a quarter of an hour	un quart-d'heure	ung kar d'eur			
half an hour	une demie-heure	une demi eur			
the day	le jour	leh joor			
the morning	le matin	leh mattang			
noon	le midi	leh meedee			
the afternoon	l'après-midi	l'apray meedee			
the evening	le soir	leh souahr			
the night	la nuit 🔹	lah nwee			
a year	un an	un ong			
a month	un mois	ung mouah			
January	Janvier	Jongveeay			
February	Février	fayvrecay			
March	Mar s	marse			
April	Avril	avreel			
May	Mai	may			
June	Juin	jyuang			
July	Juillet	jweelyai			

August	Aoûl	00	Hungary	la Hongrie	lah	hongree
September	Septembre	septaumbr	an Englishman			aunglay
October	Octobre	octobr	England	l'Angleterre f.		ungitare
November	Novembre	novaumbr	an Irishman	un Irlandais		eerlaunday
December	Décembre	daysaumbr	Ireland	l'Irlande f.		erlaund
a week	une semaine	une semmane	a Scotchman	un Ecossais	un	aycossay
a fortnight	quinze jours	kanze joor	Scotland	PEcosse f.		ycoss
Monday	Lundi	lungdee	a Dane	un Danois		g danouah
Tuesday	Mardi	mardee	Denmark	le Danemarc		danmark
Wednesday	Mercredi	mayrcredee	a Swede	un Suédois	՝ սոյ	g swaydwah
Thursday	Teudi	jeuhdee	Sweden	la Suède	lah	swayde
Friday	Vendredi	vondredee	a Russian	un Russe	un	g russe
Saturday	Samedi	samdee	Russia	la Russie	lah	russee
Sunday	Dimanche	deemaunshe	a Spaniard	un Espagnol	un	espanyol
spring	le printemps	leh prangtong	Spain	l'Espagne f.	l'e	spaine
summer	<i>ાં હા</i>	l'aytay	a Frenchman	un Français	un	g fraungsay
autumn	l'automne	l'otonn	France	la France		fraungse
winter	Phiver	l'ecvare	an Italian	un Italien		eetalyang
			Italy	l'Italie f.		etalec
The country	THE COUNTR		1	THE NO	IIM	
The country the village	la campagne le village	lah caumpahne leh veelaj	l			
the hut	la cabane	lah caban	To form the	plural of French n	ouns, add	s to the singular
the soil	ie soi	leh sol	as père, father	, peres, fathers.		
the meadow	le pré	lah pray	Nouns ending	g in s, s or s, in the si	ngular, do n	ot vary in the plural
the barn	la grange	leh graunj	as, fils, son; fil		•	•
the mill	le moulin	leh moolang		in au or eu add z to	form the pl	ural; as, eas, water
the cattle	le bétail	leh baytale	eaux, waters.	•	-	. , ,
the herd	le troupeau	leh troopo	Nouns in ou	form their plural regu	larly, by the	addition of s.
the shepherd	le berger	leh bayrjay .		ring nouns in ou take		
the mountain	la montagne	lah montaine		ou, joujou, pou.	•	
the hill	la colline	lah colleen		in al change this to	ermination i	nto aux to form the
the dale	la vallée	lah vallay		al, horse; chevaux, h		
the wood	le bois	•		naval, regal, and a		orm their plural reg
the forest	la foret	leh bouah		ddition of s to the sin		
the road	le chemin	lah forray		form their plural regu		ling s to the singular
the high-road		leh shemmang		g seven nouns in ail		
the railroad	le grand-chemin	leh grong shemmang		bail, lease; émail, e		
a mile	le chemin de fer une mille	leh shemmang deh fare une meel		il, work; vantail, leaf		
the waterfall	la cascade	lah cascad		t which admits air; v		
the fisherman	ie pecheur			has cieux in the plu		
the huntsman	le chasseur	leh paysheur leh shasseuhr	ancestor, has a	_	,	·, ····· · · · · · · · · · · · · · · ·
the numbers	THE FAMILY			THE ADJE	CTIVE	
The family	la famille	· lah fameel	The French	adjectives are pla		hefore or after the
the husband	le mari	leh maree	1	adjectives are pla	cca ciaici	belote of when an
the wife	la femme	lah fam	nouns; as:			
the father	le père	leh pare	le bon père, the			ière, the good mothe
the mother	la mère	lah mare	un bon garçon,	•		fille, a young girl
the child	l'enfant	l'ongfong	une table ronde,	a round table	au last cha	aud, warm milk.
the son	le fils	leh feess	1	COMPARISON OF	ADJECTI	VES.
the daughter	la fille	lah feol	l .			grand, the greates
the brother	le frère	leh frare	Grand, great	plus grand, greater		petit, the smallest
the sister	la sæur	lah seuhr	1 .	plus petit, smaller meilleur, better	-	leur, the best
the uncle	ra sun- Poncle	l'oncle	bon, good	· ·		, the worst
the aunt	la tante	lah taunte	manvais, bad	pire, worse		
the cousin	le cousin	leh coosang	petit, little	moindre, less		ndre, the least
the marriage	le mariage	leh mareeahje		owing the comparativ		
	•	•	li est pius poi	li que son frère—he is		
An American	NATIONALITII			NUMERAL AD		
a German	un Américain un Allemand	un amayreecang	1 un		onze	ongz dooze
German		un almaung	2 deux		douze	
Germany	l'Allemagne f.	l'almaine	3 trois		treize	trayz
n Dutchess-	un Hollandais	ung hollaunday	4 quatre		quatorze	katorz
a Dutchman	la Hollande	lah hollaund	5 cinq		quinse	kangz
Holland					seize	
Holland a Belgian	un Belge	une belj	6 six			sayz
Holland a Belgian Belgium	un Belge la Belgique	lah beljeek	7 sept	set 17	dix-sept	dee-set
Holland a Belgian Belgium a Swiss	un Belge la Belgique un Suisse	lah beljeek ung sweess	7 sept 8 huit	set 17 wheet 18	dix-sept dix-huit	dee-set deez-wheet
Holland a Belgian Belgium	un Belge la Belgique	lah beljeek	7 sept	set 17 wheet 18 neuf 19	dix-sept	dee-set

THE FRENCH LANGUAGE.

	_								_		
21	vingt-un	vahnt-ung	88 quatre-vingt-		clever		prudent		prudong		
22	vingt-deux		89 quatre-vingt	*	stupid		stupide		stupeed.		
23	vingt-troi		90 quatre-vingt-		sharp		aigu		aygu		
24	vingt-quat	re	91 quatre-vingt-		blunt		obtus		obtu		
25	vingt-cinq		92 quatre-vingt-		clean		propre		propr		
26	vingt-six		93 quatre-vingt-		dirty		sale		saal		
27	vingt-sept		94 quatre-vingt-		hard		dur		dure		
28	vingt-huit	_	95 quatre-vingt-		soft		MON		moo		
29	vingt-neuf		96 quatre-vingt-		strong		fort		fore		
30	trente	traunt	97 quatre-vingt-		weak		faible		fabl		
40	quarante	karaunt	98 quatre-vingt-		well		sain 		sang		
50	cinquante	sahnkaunt	99 quatre-vingt-		111		malade		malahd		
60	soixante	soassaunt	100 cent	saung	lean		maigre		maygr		
70	soixante-d	·- -	101 cent-un	saunt-ung	thick		gros		gro		
71	soixante-o		110 cent dix	saung-deece	fat		gras		gra		
73	soixante-d		120 cent vingt	saung-vahng	thin		mince		mangee		
73	soixante-ti		130 cent trente		polite		poli 		polee		
. 74	soixante-qu		200 deux cents		impolite		malhonnit	•	mallonna	108	
75	soixante-q		300 trois cents		false		faux Amelend		fo		
76	soixante-so		400 quatre cents		deep		profond		profong		
77	soixante-d soixante-d	•	500 cing cents		wide narrow		large Uroit		larj aytrou ah		
78	soixante-d		600 six cents		round		etroit rond		-		
79 80	quatre-vin		700 sept cents		square		rona carr i		rong carray		
81	quatre-vin		800 huit cents		square		carre court		coor		
0,	quarre-vin	gr-ww katr-vahnt-ung	900 neuf cents 1,000 mille		long		long		long		
82	quatre-vin	• • • • • • • • • • • • • • • • • • • •		meel	flat		plat		pla		
83	quatre-vin	,	2,000 deux mille 3,000 trois mille		warm		chaud		sho		
84	quatre-vin		10.000 dix mille		cold		froid		frough		
85	quatre-vin		20,000 vingt mill	, ,	fresh		frais		fray		
86	quatre-vin			ion, ung mellyong	ripe		mûr		mure		
87	quatre-vin	•	a minon, an min	on, and mentons	dry		sec		sec		
"	Yanni on	5. 0.7.			sour		aigre		aygr		
ł		OBDINAL	NUMBERS.		sweet		don#		doo		
Th.	e first,	le premier	leb neomusi		bitter		amer		amare		
1	second	le second	leh premyai leh zeggong		hungry		affamé		affamma	7	
	third	le troisième	leh trouazzeeame		thirsty		alteré		altayray	,	
- 44		le quatrième	leh kattrecame	,	heavy		pesant		pezong		
**	5th	le cinquième	leh sahnkeeame		light		léger		layjai		
	6th	le sixième	leh seeceeame		wet		humide		umeed		
	7th	le septième	leh seetteeame		content		content		congtong		
	8th	le huitième	leh wheeteeame		happy		heureux		eureu		
"	gth	le neuvième	leh neuveeame		gay		gai		gay		
	ıoth	le dixième	leh deezeeame		sad		triste		treest		
	11th	l'onzième	leh ongzecame		useful		utile		ute el		
	12th	le douzième	leh doozeeame		strange		étrange		aytraunj		
	13th	le treizième	leh trayzceame		pretty		joli		jole e		
"	14th	le quatorzième	leh kattorzeeame	•	ugly		laid '		la y		
"	15th	le quinzième	leh kahngzeeame		dark		sombre		sombr		
"	16th	le veizième	leh sayzeeame		open		ouvert	_	oovare		
"	17th	le dix-septième	leh deessettiame		disagreeable		désagréabl	e	daysagra	yabl	
"	18th	le dix-huitième	leh deez-wheetee	ame	proud		fier		feeare		
"	19th	le dix-neuvième	leh deez-neuvee	ame	arrogant		arrogant		arrogong	•	
"	20th	le vingtième	leh vahnteeame		cowardly		láche		lahsh	_	
"	218t	le vingt-unième	leh vahnt-uncea	me	courageous		courageus		coorraje	ı	
"	30th	le trentième	leh traunteeame		faithless		perfide		pairfeed		
. "	40th	le quarantième	leh karaunteeam	e	innocent		innocent		innosong		
"	50th	le cinquantième	leh sahnkauntee:		1 .					_	
"	60th	le soixantième	leh souahssaunte		i		THE PE	RONOUN.		•	
44	70th		leh souahssaunt		1		ine rr	.JRJUN			
**	8oth		e leh kattr-vahnte		The perso	mal area	Ollus ore o	s follows	•		
"	90th	le quatre-vingt-dix iéme	r• leh kattr-vahnt-	deezeeame	1 -	•					
**	rooth	le centième	leh saunteeame		30	(jeh)	1	Nous	(noo)	we	
"	1,000th	le millième	leh milleeame		tu .	(tu)	thou	vous	(voo)	you	
the the	e last	le dernier	leh dareneeay		te	(teh)	thee	vous 22-	(voo)	you	
1 .	•	VOCABIII.APV	OF ADJECTIV	RQ.	il	(eel)	he	ile	(eel)	they	
l _					elle	(el)	she	elles	(el)	they	
I	or	pauvre	pohv		moi	(mough)		nous	(noo)	us him	
ric	ш	riche	reesh	<u>l</u>	toi	(touah)	thee	lui	(lwee)	him	(
6											٩

I had had thou hast had

j'avais en tu avais en javayz ew tu avayz ew

THE FRENCH LANGUAGE.

J					
	POSSESSIVE PRO	NOUNS.	he had had we had had	il avait en	eel avait ew
Mas. mon	(mong) my)		you had had	nous avions eu vous avies eu	nooz avecohngz ew
Fem. ma	(mah) my	eral: mes (may) my	they had had	ils avies en	vooz aveeayz ew eels avait ew
Mas. ton	(tong) thy		they had had		
Fem. ta	(tah) thy	tes (tay) thy		· Past Anterior	•
Mas. son	(eong) this		I had had	j' eus eu	jeus ew
Fem. sa	(sah) her	ses (say) his, her.	thou hadst had	in ens en	tu eus ew
notre	(notr) our	* #08 (no) our	he had had	il eut eu	eel eut ew
voire	(votr) your	" <i>vos</i> (vo) your	we had had	nous cûmes en	nooz eums ew
lour	(leur) their	" leurs (leur) their	you had had	vous cûles en	vooz euts ew
			they had had	ils curent cu	cels curt ew
	RELATIVE PROP	NOUNS.		Fulure.	
Qu f (1	ree) who, w	hich, that	I shall have	j'aurai	joray
	ouah) what, t	•	thou shalt have	iu auras	tu orah
quel (1	tel), lequel? which?	que (keh) what?	he shall have	il aura	eel orah
			we shall have	nous aurons	nooz orong
	THE VERB	_	you shall have	TOUS GUTES	vooz oray
	16110	•	they shall have	ils auront	eels orong
Before procee	ding to study the	njugations of the regular		Future Anterior	- L
verbs, the stude	nt must ground hims	elf thoroughly in the irreg-	1		
nlar verbe <i>enci</i>	to have and the	a ha mhish are letters.	I shall have had	j'aurai eu	joray ew
	, to mave, and etre, t	o be, which are designated	thou shalt have had he shall have had	tu auras eu	tu orahs ew
suxiliary verbs	pecause they assist	in the conjugation of the	he shall have had we shall have had	il aura eu	eel orah ew
others.				nous aurons eu	noos orongz ew
define v ***	TTTADW woman		you shall have had they shall have had	vous aurez eu ils auront eu	vooz orayz ew eels oront ew
IEE AUX	ILIARY VERB "A	VULK"—TO HAVE.	1		cers orout cm
•	INFINITIVE MO	•	•	Conditional Present.	
Present		Past.	I should have	faurais	joray
Avoir, to h	tve,	Avoir ex, to have had.	thou shouldst have	tu aurais	tu oray
	PARTICIPLES.		he should have	il aurait	eel oray
Ayant, havi	ng.	Eu, had	we should have	nous aurions	nooz orecong
		Ayant en, having had.	you should have	vous auries	vooz oreeny
	INDICATIVE MO	OD.	they should have	ils auraient	eels oray
have	Present.	_)	Conditional Past.	
. nave hou hast	jal	jay	I should have had	j'aurais eu	jorays ew
nou nast ie has	lu as	tu ah	thou shouldst have ha		tu orays ew
he has	il a	eel ah	he should have had	il aurait eu	eel orait ew
ve have	elle a nous avons	el ah	we should have had	nous aurions en	nooz arecongu ew
ou have	vous aver	nooz avong	you should have had	vous auriez en	vooz orecayz ew
hey have	ils (elles) ont	vooz avai	they should have had	ils auraient eu	eels orait ew
-		eels ong		IMPERATIVE MOO	n.
had	Imperfect.	_	l		
had hou hadst	j'avais	javay	Have	àie	ay
nou naust ie had	iu avais	tu avay	let us have	ayons	ayong
ve had	il avait	eel avay	have (ye)	ayes	aya y
ou had	nous avions vous avies	vooz aveeong	1	SUBJUNCTIVE MO	חח
hey had	vous avies ils avaient	nooz avecay		•	
		eels avay	1	Present.	
had	Past Definit		That I may have	que faie	keh jai
hou hadst	j eus Iu eus	jew	that thou mayest hav	• •	keh tu al
ne had	il eut	tu ew	that he may have	qu'il ait	keel ai
ve had	nous câmes	eelew nooz eum	that we may have	que nous ayons	keh nooz ayong
ou had	vous cumes vous cûles	nooz eum Vooz eut	that you may have	que vous ayes	keh vooz ayay
hey had	ils eurent	eels eur	that they may have	qu'ils aient	keels al
· · • · · · · · ·	Perfect.	cois cui	_	Imperfect.	
have had	•	An or and	That I might have		keh jeuss
hou hast had	j'ai eu tu as eu	jay ew	That I might have	que j'ensse	keh tu cuss
nou nast nad ne has had	ii as eu il a eu	tu ahz ew	that thou might est have		ken tu cuss keel cu
he has had	ti a eu elle a eu	eel ah ew	that he might have	qu'il ett	keel eu keh nooz eussyong
we have had	elle a en nous avons en	el ah ew	that we might have that you might have	que nous eussions que vous enssies	keh vooz eussyay
ou have had	vous avons en	nooz avongz ew vooz avayz ew	that they might have	qu'ils enssent	keels cuss
hey have had	ils ont en	eels ont ew	and they might have	-	
,	Pluperfect.		l	Perfect.	
had had	Piuperject.		That I may have had	que j'aie eu	keh jai ew
i nag nad	Canair eu	lawawa aw			

That I may have had quefaie en that thou mayest have que in aies en had keh jal ew keh tu aiz ew

THE FRENCH LANGUAGE.

			•		
that he may have ha		keel ait ew	we had been	nous cûmes été	nooz eums ettay
•	ad que nous ayons eu	keh nooz ayongz ew	you had been	vous eûtes été	vooz euts ettay
	ad que vous ayes en	keh vooz ayayz ew	they had been	il eurent éte	eels eurt ettay
that they may have h	. .	keels ait ew		Future.	
	Pluperfect.		I shall be	je serai	je serray
That I might have h		keh jeuss ew	thoushalt be	tu seras	tu serrah
that thou mightest h	ave que in eusses en	keh tu euss ew	he shall be	il sera	eel serrah
had		h 1 4	we shall be	nous serons	noo serrong
that he might have h		keel eut ew keh nooz eussyongs	you shall be	DOUS SEPEZ	voo serray
had	ve que nous eussions eu	ew	they shall be	ils seront	eel serong
	ave que vous enssiez en	keh vooz eussyaz ew		Future Anterior.	
had			I shall have been	j'aurai été	joray ettay
that they might he	ve qu'ils eussent eu	keels eusst ew	thou shalt have been	lu auras élé	tu orahs ettay
had .			he shall have been	il aura été	eel orah ettay
			we shall have been you shall have been	nous aurons été vous aurez été	nooz orongz ettay vooz orayz ettay
THE AU	XILIARY VERB "ET	rke"—TO BE.	they shall have been	ils auront été	eels oront ettay
	INFINITIVE MOOD.		die januari nave been		•
Present.		Past.		Conditional Present	·•
Eire (ettr), to be.	Avoir été (avo	ahr ettay), to have been.	I should be	je serais	je serray
	PARTICIPLES.		thou shouldst he	tu serais	tu serray
Etant (ettaung), be	eing. Eté (ettay), be	en.	he should be	il serait	eel serray
		unt ettay) having been.	we should be you should be	nous serions vous series	noo serreeong voo serreeay
	INDICATIVE MOOD	•	they should be	ils seraient	eel serray
	Present.		Liney should be		cci scrizy
Iam	je suis	jeh swee	l	Conditional Past.	
thou art	tu es	tu ay	I should have been	j'aurais été	jorays ettay
he is	il est	eel ay	thou shouldst have	tu aurais été	tu orays ettay
she is	elle est	el ay	he should have been	il aurait été	ecl orait ettay
we are	nous sommes	noo som	we should have been	nons aurions été	nooz oreeongz ettay
you are	vous éles	vooz ait	you should have been		vooz oreeayz ettay
they are	ils (elles) sont	ecl song	they should have been	ils auraient été	eels orait ettay
	Imperfect.		1	IMPERATIVE MOOI	
I was	j'étais	jettay	l _		
thou wert	tu étais	tu ettay	Be	soi	souah
he was	il était	il ettay	let us be be (ye)	soyons	swoiyong swoiyay
we were	nous étions	nooz ettyong	De (ye)	soyez	BWOIJZJ
you were	vous étiez	vooz ettyay	•	SUBJUNCTIVE MOOD.	
they were	ils étaient	eels ettay		Present.	
	Past Definite.		That I may be	que je sois	keh jeh souah
I was	je fus	je fu	that thou mayest be	que tu sois	keh tu souah
thou wert	in fus	tu fu	that he may be	qu'il soit	keel souah
he was we were	il fut	eel fu noo fume	that we may be that you may be	que nous soyons que vous soyes	keh noo swoiyong keh voo swoiyay
ve were	nous fûmes vous fûtes	noo iume voo fute	that you may be	qu'ils soient	keel souah
they were	ils furent	eel fure		•	
· -, ·· -	Perfect.		(Th4.71 1 1 1	Imperfect.	hab iab fue
I have been			That I might be	que je fusse que lu fusses	keh jeh fusse keh tu fusse
thou hast been	j'ai éte tu as été	jai ettay	that thou mightest be that he might be	que in jusses qu'il fûl	keel fu
he has been	il a été	tu ah ettay eel ah ettay	that we might be	que nous fussions	keh noo fussyong
she has been	elle a été	el ah ettay	that you might be	que vous fussies	keh voo fussyay
we have been	nous avons éte	nooz avongz ettay	that they might be	qu'ils fussent	keel fusse
you have been	vous avez été	vooz avayz ettay		Perfect.	
they have been	ils (elles) ont été	eels ont ettay	That I may have been	•	keh jai ettay
	Pluperfect.		that thou mayest have		kch tu aiz ettay
	j`avais éte	javayz ettay	been		
I had been	tu avais été	tu avayz ettay	that he may have beer	qu'il ait été	keel ait ettay
I had been thou hadst been	in a cais ete		that we may have been		keh nooz ayongz ettay
	il avait été	eel avait ettay	1	and move and Ald	keh vooz ayayz ettay
thou hadst been he had been we had been		nooz avyons ettay	that you may have	que vous uyes ese	
thou hadst been he had been we had been you had been	il avail été nous avions été vous aviez été	nooz avyons ettay vooz avyayz ettay	been		
thou hadst been he had been we had been	il avait été nous avions été vous avies été ils avaient éte	nooz avyons ettay	been that they may have		keels ait ettay
thou hadst been he had been we had been you had been	il avail été nous avions été vous aviez été	nooz avyons ettay vooz avyayz ettay	been	e qu'ils aient été	keels ait ettay
thou hadst been he had been we had been you had been they had been I had been	il avait été nous avions été vous avies été ils avaient éte Past Anterior. J'eus été	nooz avyons ettay vooz avyayz ettay ecls avait ettay jeuz ettay	been that they may have been	e qu'ils aient été Pluperfect.	·
thou hadst been he had been we had been you had been they had been	il avait été nous avions été vous avies été ils avaient éte Past Anterior.	nooz avyons ettay vooz avyayz ettay ecls avait ettay	been that they may have	e qu'ils aient été	keels ait ettay

that thou mightest	que in eusses été	keh tu euss ettay	Prot D d !	Narrative.	Don't to the
have been that he might have	qu'il cût été	keel eut ettay	Past Definite. I spoke.		Past Anterior. I had spoken.
been			Je parlai	jeh parlay	Teus parlé
that we might have been	que nous eussions été	keh nooz eussyongs ettay	tu parlas	tu parla	tu eus parlé
that you might have	que vous eussies été	keh vooz eussyaze et-	il parla	eel parla	il eut parlé
been	,	tay	nous parlâmes	noo parlahme	nous eumes par lé
that they might have	qu'ils eussent étè	keels eusst ettay	vous parlates	voo parlahte	vous eutes parlé
been			ils parlèrent	eel parlaire	ils eurent parlé
	REGULAR VERB	S.	Future.	Future.	Future Anterior.
		guage have the four fol-	I shall speak.		I shall have spoken.
lowing terminations		1-	Je parlerai	jeh parlerai	Faurai parlé
er, ir,	as in parler, to specin in in finir, to fini		tu parleras	tu parlera	tu auras parlé
oir,	as in recevoir, to rec	•	il parlera	eel parlera	il aura parlé
re,	as in vendre, to sell	•	nous parlerons	noo parlerong	nous àurons parlé
All that precedes t	his infinitive termination	n is called the "root" of	vous parlerez	voo parleray	vous aurez parlé
the verb.			ils parleront	eel parlerong	ils auront parle
		s and not their roots are	Present.	Conditional.	Past.
Verbs."	ros;" those which chang	ge their roots, "Irregular	I should speak.		I should have spoken
	n "oir" are all irregular s	and the French lan guage	Je parlerais	ich manlaman	Taurais parlé
	ity only three regular con		tu parterais	jeh parleray tu parleray	j aurais parie tu aurais parlé
	First Conjugation ends in		il parlerait	eel parleray	il aurait parlé
	Second Conjugation ends		nous parlerions	noo parlereeong	nous aurions parlé
	Third Conjugation ends i		vous parleriez	voo parlereeay	vous auriez parlé
The l	Fourth Conjugation ends	s in "re."	ils parleraient	eel parleray	ils auraient parlé
		the root of the First Con- i," to the fourth a "u;"	Present.	SUBJUNCTIVE MO	Pasi.
as:	to annulu		That I may speak.		That I may have spoken
Fin-	·er, to speak; farlé, ir, to finish; fini,	spoken finished.	Que je parle	keh jeh parl	Que j'aie parlé
	i-re, to sell; vendu,	sold.	que tu parles	keh tu parl	que tu aies parlé
			qu'il parle que nous parlions	keel parl keh noo parlyong	qu'il ait parlé que nous ayons parlé
The student may	now proceed to the m	astery of	que vous parlies	keh voo parlyay	que vous ayes parlé
TH	IE FOUR CONJUGAT	TIONS	qu'ils parlent	keel parl	qu'ils aient parlé
• •			Imperfect.		Pluperfect.
	FIRST CONJUGATI		That I might speak	4.	That I might have spoken
Present.	INFINITIVE MOOD.	Past.	Que je parlasse	keh jeh parlass	Quej'eusse parlé
			que tu parlasses	keh tu parlass	que tu eusses parlé
Parler (parlay),	-	arlé, to have spoken.	qu'il parlât	keel parlah	qui'l eût parlé
	PARTICIPLES.		que nous parlassions	keh noo parlassyon	
Parlant (parlong	g), speaking. Parle, sp		que vous parlassies	keh voo parlassyay	que vous enssiez parlé
	Ayant pa	rlė, having spoken.	qu'ils parlassent	keel parlass	qu'ils eussent parlé
	INDICATIVE MOOD.		.	IMPERATIVE MO	
	Present.		Parle (parl), speak to		lons (parlong), let us speal
SIMPLE TENSES	•	COMPOUND TENSES.	qu'il parte (keel part)		<i>lez</i> (parlay), speak ye <i>ils parlent</i> (keel parl), le
Absolu.		Antérieur.			m speak.
I speak.		I have spoken.			-
Je parle	jeh parl	J'ai parlé	81	ECOND CONJUGA	TION.
tu parles	tu parl	tu as parlé		INFINITIVE MOO	
il parle nous parlons	eel parl	il a parlé	Present.		Past.
vous partons	noo parlong voo parlay	nous avons parlé vous avez parlé	Finir (feeneer), to fin	ish. <i>Avoir fini</i>	(feenee), to have finished.
ils parlent	eel parl	ils out parlé		PARTICIPLES.	
=	Descriptive.		Finissant (feeneeson	g), finishing. Fini.	finished.
Imperfect.	Descriptive.	Pluperfect.	1		! fini, having fin ished.
I spoke.		I had spoken.		INDICATIVE MO	OD.
		ponen,	1	Descent	

J'avais parlé
tu avais parlé
il avait parlé
nous avions parlé
vous aviez parlé
ils avaient parlé

Present.

jeh feenee tu feenee COMPOUND TENSES.

Antérieur.

I have finished.

Fai fini tu as fini

SIMPLE TENSES.

Absolu.

I finish.

Je finis tu finis

jeh parlay tuparlay eel parlay noo parlyong

voo parlyay eel parlay

Je parlais tu parlais il parlait

nous parlions vous parlicz ils parlaient

THE FRENCH LANGUAGE.

il finit	eel feence	il a fini	T	HIRD CONJU	GATION.
nous finissons	noo feeneessong	nous avons fini		INFINITIVE	MOOD.
vous finisses	voo feeneessay	vous aviez fini	Present.		Past.
ils finissent	eel feeneess	ils ont fini	Recevoir (ressevoush	r), to receive.	Avoir reçu, to have received.
	Descriptive.		,		CIPLES.
Imperfect.		Pluperfect.	Recevant (ressevong)		
I finished.		I had finished.	Attebung (ressevong)	, receiving.	Reçu (ressu), received. Ayant reçu, having received.
Je finissais	jeh feeneessay	Javais fini	1		
tu finissais	tu feeneessay	tu avais fini		INDICATIVE	MOOD.
il finissait	eel feeneessay	il avait fini		Presen	nt.
nous finissions vous finissies	noo feeneessyong	nous avions fini	SIMPLE TENSES.		COMPOUND TENSES.
ils finissaient	voo feeneessyay eel feeneessay	vous aviez fini ils avaient fini	Absolu.		Antérieur.
iis janistaient	•	iis avaient jini	I receive.		I have received.
	Narrative.		Je reçois	jeh ressouah	J'ai reçu
Past Definite.		Past Anterior.	tu reçois	tu ressouah	tu as reçu
I finished.		I had finished.	il reçoit	eel ressouah	il a reçu
Je finis	jeh feenee	J'eus fini	nous recevons	noo ressevong	•
tu finis	tu feenee	tu eus fini	vous receves	voo ressevay	vous avez reçu
il finit	eel feenee	il eut fini	ils reçoivent	eel ressouahv	•
nous finimes	noo feeneem	nous eûmes Ani		D	42
vous finlies	voo feeneet	vous eûtes fini	Imperfect.	Descrip	tive. Pluperfect.
ils finirent	eel feeneer	ils eurent fint	I received.		I had received.
P. d	Future.			• • • • • • • •	
Future.		Future Anterior.	Je recevais	jeh ressevay	J'avais reçu
I shall finish.		I shall have finished.	tu recevais il recevait	tu ressevay eel ressevay	tu avais reçu il avait reçu
Je finirai	jeh feeneeray	Jaurai fini	nous recevions	noo ressevay	
tu finiras	tu feeneera	tu auras fini	vous recevies	voo ressevyay	•
il finira	eel feeneera	il aura fini	ils recevaient	eel ressevay	ils avaient reçu
nous finirons	noo feeneerong	nous aurons fini		•	•
vous finirez	voo feeneeray	vous aurez fini	Past Definite.	Narrat	ive. Past Anterior.
ils finiront	eel feeneerong	ils auront fini	1		
Present.	Conditional.	D4	I received.		I had received.
		Past.	Je reçus	jeh ressu	Feus reçu
I should finish.		I should have finished.	tu reçus	tu ressu	tu eus reçu
Je finirais	jeh feeneeray	J'aurais fini	il reçut	eel ressu	il eut reçu
tu finirais	tu feeneeray	tu aurais fin i	nous reçûmes vous reçûtes	noo ressume voo ressute	nous eûmes reçu vous eûtes reçu
il finirait	eel feeneeray	il aurait fini	ils requrent	eel ressure	ils eurent reçu
nous finirions	noo feeneereeong	nous aurions fini			<u>-</u>
vous finiriez ils finiraient	voo feeneereeay eel feeneeray	vous auries fin i	_	Fut	
··· janar usens	, ,	ils auraient fini	Future.		Future Anterior.
Present.	SUBJUNCTIVE M	OOD. Past.	I shall receive.		I shall have received.
		•	Je recevrai	jeh ressvray	Faurai reçu
That I may finish.		That I may have finished.	tu recevras	tu ressvrah	tu auras recu
Que je finisse	keh jeh feeneess	Que j'aie fini	il recevra	eel ressvrah	il aura reçu
que lu finisses	keh tu feeneess	que tu aies fini	nous recevrons	noo ressyrong	
qu'il finisse	keel feeneess	qu'il ait fini	vons recevres	voo ressvray	vous aurez reçu
que nous finissions		essee-que nous ayons fini	ils recevront	eel ressvrong	ils auront reçu
que vous finissiez	ong	eay que vous ayez fini		Conditio	onal.
q'uil finissent	keel feeneess	• • • •	Present.		Past.
- •	reel leeneess	qu'ils ayent fini	I should receive.		I should have received.
Imperfect.		Pluperfect.	i	jeh ressvrav	Taurais reçu
That I might finish.		That I might have finished.	Je recevrais		j aurais reçu tu aurais recu
Que je finisse	keh jeh feeneess	Que j'eusse fini	tu recevrais il recevrait	tu ressvray eel ressvray	il aurait reçu il aurait reçu
que tu finisses	keh tu feeneess	que tu eusse fini		•	
qu'il finit	keel feence	qu'il cût fini	nous recevrions	voo ressvreea	
que nous finissions	keh noo feenee		ils recevraient	eel ressvray	ils auraient reçu
•	yong	-		•	•
que vons finissies	keh voo feeneessy	ay que vous eussiez fint	Person	SUBJUNCTI	VE MOOD. Past.
qu'ils finissent	keel feeneess	qu'ils eussent fini	Present.		
	IMPERATION SO	-	That I may receive.		That I may have received.
Trimber (for the second	IMPERATIVE M		Que je recoive	keh jeh ressou	
Finis (feenee), finish	j	inissons (feeneessong), let us	que tu recoives	keh tu ressous	
mulil finings thank for-	nanc) 1	finish	qu'il reçoive	keel ressouah	
qu'il finisse (keel feer let hi		nissez (feeneessay), finish yo	que nous recevions	keh noo ressy	
iet ni	amen q	u'ils finissent (keel feencess),	que vous recevies	keh voo ressy	
i		let them finish	qu'ils reçoivent	keel ressouah	ve qu'ils aient reçu
<u> </u>					

ils vendaient

Je vendis

tu vendis

il vendit

nous vendimes

vous vendites

ils vendirent

Je vendrai

tu vendras

il vendra

nous vendrons

vous vendres

ils vendront

Future.

I shall sell.

Past Definite.

I sold.

eel vaunday

jeh vaundee

tu vaundee

eel vaundee

noo vaundeem

voo vaundeet

eel vaundeer

jeh vaundray

tu vaundrah

eel vaundrah

noo vaundrong

voo vaundray

eel vaundrong

Narrative.

Future.

ils avaient vendu

Feus vendu

tu eus vendu

il eut vendu

nous eumes vendu

vous eûtes vendu

Past.

ils eurent vendu

Faurai vendu

tu auras vendu

il aura vendu

nous aurons vendu

to dispute

vous aurez vendu

ils auront vendu

I had sold.

3 ⁰⁴		THE FRENCE	LANGUAGE.		
Imperfect.	_	Pluperfect.	Present.	Conditional,	Past.
That I might receive.		That I might nave received.	I should sell.		I should have sold.
Que je requese que tu requeses qu'il requt que nous requesions que vous requesies qu'ils requesent	keh jeh ressuce keh tu ressuce keel ressu keh noo ressussyon keh voo ressussyay keel ressusse		Je vendrais tu vendrais il vendrait nous vendrions vons vendries ils vendraient	jeh vaundray tu vaundray eel vaundray noo vaundreeong voo vaundreeay eel vaundray	Faurais vendu tu aurais vendu il aurait vendu nous aurions vendu vous auries vendu ils auraient vendu
	IMPERATIVE M	100D.		SUBJUNCTIVE MO	op.
gu'il reçoive (keel res	receves ((ressevong), let us receive ressevay), receive ye coivent (keel ressouahve), let them receive	Present. That I may sell. Que je vende que tu vendes	keh jeh vaund	Past. That I may have sold. Que faie vendu que tu aies vendu
F	OURTH CONJUG	 ATION.	qu'il vende que nous vendions que vous vendies qu'ils vendent	keel vaund keh noo vaundyong keh voo vaundyay keel vaund	qu'il ait vendu
	INFINITIVE MOO	D.	Imperfect.		Pluperfect.
Present.		Past,	That I might sell.		That I might have sold
Vendre (vaundr), to sell. Avoir vendu, to have sold. Participles.		Que je vendisse que tu vendisses qu'il vendbl que nous vendissions	keh jeh vaundeess keh tu vaundeess keel vaundee	Que j'eusse vendu que tu eusses vendu qu'il eût vendu cas- que nous eussions ven-	
Vendant (vaundong)		vaundu), sold. endu, having sold.	que vous vendissies qu'ils vendissent	yong	du yay que vous eussies vendu qu'ils eussent vendu
			ya wa samusana	IMPERATIVE MO	•
SIMPLE TENSES.	Present.	COMPOUND TENSES.	Vends (vong), sell th		dons (vaundong), let us sell
Absolu.		Antérieur.	, thus (vong), sen th		des (vaunday), sell ye
I sell.		I have sold.	qu'il vende (keel vaus	nde), qs' let him sell	ils vendent (keel vaund), let them sell
Je vends tu vends il vend	je vong tu vong eel vong	Fai vendu tu as vendu il a vendu	vo	CABULARY OF	VERBS.
nous vendons vous vendes	noo vaundong voo vaunday	nous avons vendu vous avez vendu	To eat	manger	maunjay
ils vendent	eel vaund	vous avez venau ils ont vendu	to drink	boire	bouahr
			to be thirsty	avoir soif avoir faim	avouahr souaf avouahr fang
Imperfect.	Descriptive.	District	to be nungry	déjeûner	dayjeunai
I sold.		Pluperfect.	to dine	diner	deenai
		I had sold.	to sup	souper	soopai
Je vendais tu vendais	jeh vaunday	J'avais vendu	to serve	servir	sareveer
iu venaais il vendait	tu vaunday eel vaunday	tu avais vendu il avait vendu	to carve	trancher	traunshai
nous vendions	noo vaundyong	n avan venau nous avions vendu	to smoke	fumer	fumai
vous vendies	voo vaundyong	vous avies vendu	to sneeze	éternuer tousser	aytairnual toossai
ile mendaient	and wavendam	ila amaiant ann ta	to cough	.URSSET	roossar.

to cough to think toossai tousser paungsai penser réfléchir rayflaysheer to reflect to speak parlai parler Past Anterior. to say dire deer to repeat répéter raypaytai to explain déclarer dayclarrai to be quiet se taire seh tare to chat causer cosay to tell raconter raccongtai demaundai to ask demander to answer répondre raypongdr raypleckai seh trompai to reply to be mistaken to object répliquer se tromper objectai objecter I shall have sold. to doubt douter dootai to affirm affirmer affeermai to prove prouver proovai to assure assurer assurai to deny nier nceai to maintain soutenir sooteneer

disputer

disputai

THE FRENCH LANGUAGE.

ENGLISH.	FRENCH.	PRONUNCIATION.	ENGLISH.	FRENCH.	PRONUNCIATION. '
to consent	consentir	congsaunteer	to dress	s'habiller	s'abbeelyai
to approve	approuver	approovai	to draw	tirer	teerai
to praise	louer	looai	to show	montrer	mongtrai
to admire	admirer	admeerai	to present	présenter	praysauntai
to blame	blâmer	blahmai	to take	prendre	praundr
to believe	croire	crouahr	to accept	accepter	acceptai
to know	savoir	savouahr	to refuse	refuser	reffusai
not to know	ignorer	eenyorai	to receive to spoil	recevoir	ressevouahr gahtai
to imagine to compare	imaginer comparer	eemajeenai compahrai	to spon	gåter jeter	jettai
to imitate	imiter	eemeetai	to lose	perdre	pairdr
to forget	oublier	oobleesi	to look for	chercher	shairshai
to remember	se souvenir	seh soovenneer	to find	trouver	troovai
to wish, to will	vouloir	vouloughr	to hide	cacher	cashai
to desire	désirer	dayseerai	to cover	couvrir	coovreer
to wish	souhaiter	sooaytai	to uncover	découvrir	daycoovreer
to love	aimer	aimai	to roast	rôtir	roteer
to flatter	flatter	flattai	to boil	bouilli r	booeelyeer
to embrace	embrasser	aumbrassai	to weigh	peser	pezai
to hope	espérer	espayrai	to build	bâtir	bahteer
to rejoice	réjouir	rayjooeer	to sow	semer	semmai
to give	donner	donnai	to pluck	cueillir	kileyeer
to thank	remercier	remmairceeal	to plant	planter moissonner	plauntai mouahssonnai
to esteem	estimer	esteemai	to reap	moissonner	mouanssonnai
to honor to despise	konorer mépriser	onorai	VOC	ABULABY OF A	DVERBS.
to hate	mepriser Àair	maypreezai haeer	1	ď abord	d'abor
to offend	offense r	offongsai	At first	a avora auparava ni	oparravang
to insult	insulter	angsuhltai	previously afterwards	ensuite	aunsweet
to quarrel	quereller	kerrellai	together	ensemble	aunsaumbl
to swear	jurer	jurai	at last	enfin	aunfang
to punish	punir	puneer	where	où	00
to beat	battre	batre	here	ici	cesee
to weep	pleurer	pleuhrai	there	là	lah -
to sigh	soupirer	sooperai	elsewhere	ailleurs	acellyure
to regret	regretter	regrettai	above	dessus	dessu
to repent	se repentir	seh repaunteer	below	dessous	dessoo
to excuse	excuser	excusai	within	dedans	deddong
to pardon to revenge	pardonner	pardonnai	without	dehors	dehor
to joke	venger railler	vaungjai raeelyai	everywhere	partout	partoo
to laugh	rine	reer	nowhere	nulle part en kaut	nule par
to live	vivre	veevr	down	en haus en bas	aung ho aung bah
to feel	sentir	saunteer	anywhere	queique part	kelkeh par
to touch	toucher	tooshai	already	déjà	dayjah
to taste	gouter	gootai	often	souvent	souvong
to see	voir	voushr	sometimes	quelquefois	kelcahfouah
to hear	entendre	auntaundr	in future	à l'avenir	ah l'avneer
to grow	croltre	crouahtr	always	toujours	toojoor
to go	aller	allai	never	jamai s	jammay
to go out	sortir	sorteer	soon	bientôt	beeangto
to return to meet	relourner	retoornai	immediately	aussilőt	osito
to meet to follow	rencontrer	rauncongtrai	late	tard	tar
to run	suivre courir	sweevr	early	tôt	to ah praysong
to jump	sauler	cooreer sotai	at present	à présent vite	veet
to fall			quickly		too deh sweet
to dance	tomoer danser	tombai daungsai	at once afterwards	tout de suite puis	pwee
to play	jouer	jooai	vesterday	hier	yare
to ascend	monter	mongtai	yesterday evening	hier au soir	yare o souahr
to descend	descendre	dessaundr	to-day	aujourd'hui	ojoordwee
to sit down	s'asseoir	sassouahr	to-morrow	demain	demmang
to lie down	se coucher	seh cooshal	to-morrow morning	demain matin	demmang mattang
to rest	se reposer	seh repozai	to-morrow evening	demain soir	demmang souahr
to sleep	dormir	dormeeer	day after to-morrow	après-demain	appray demmang
to dream	rèver	rayvai	enough	asse#	assay
to awake	s'éveiller	sayvailyai	too much	trop	tro
to get up	se lever	seh levvai	little	peu	peuh
11/					

	ENGLISH.	French.	PRONUNCIATION.
mucl	1	beaucoup	bocoo
very		très, fort	tray, fore
more		plus	plu
less		moins	mouang
atles	ıst	au moins	o mouang
thus		si	see
near	y	presque	pressk
abou	t	environ	aungveerong
all		tout	too
altog	ether	tout-à-fait	toot-ah-fay
only		seulement	seuhlmong
well		bien	becang
bette	r	mieux	meyew
so m	ach the better	tant-mieux	tong meyew
bad		mal	mal
wors	e	pis	pee
rathe	r	plutôt	pluto
witho	ut doubt	sans doute	song doot
indee	đ	en effet	aun effay
on the	e contrary	au contraire	o congtrare
scarc	el y	à peine	ah pane
perha	ps	peut-être	put-aitr
all at	once	tout-à-coup	toot-ah-coo
not a	t all	point du tout	pouang du too
not ye	et	pas encore	paz auncore
nothi	ng	rien ·	reeang
nothi	ng at ali	rien du tout	recang du too

VOCABULARY OF PREPOSITIONS.

Or	ou	00
with, near	chez, auprès	shay, opray
near	près	pray
in, within	dans, en	dong, aung
before	avani	avvong
behind	derrière	derreeare
below	SONS	800
over	sur	sure
against	vers	vare
far from	loin de	louang deh
on the side of	à côtè de	ah cotay deh
opposite	vis-à-vis	veez-ah-vee
round about	autour de	otoor deh
instead of	au lieu de	o leeyu deh
in the midst of	au milieu de	o millyu deh
on this side	en-deçà de	aung-dessah de
on the opposite side	au-delà de	o-dellah-deh
out of	kors	hor
after	après	appray
with	avec	avvec
since	depuis	deppwee
between	entre-parmi	aungtr-parmee
without	sans	song
for	pour	poor
through, by	par	par
against	contre	congtr
during	pendant	paundong

VOCABIILARY OF CONTINUES

10	CABCIAGI OF CO	AJUNCTIONS.
eitheror	ouou	0000
neithernor	nini	neenee
also	aussi	ossi
but	mais	may
however	cependant	seppaundong
yet	pourtant	poortong
if	si	see
if not	si non	see nong
if only	pourvu que	poorvu keh
even if	quand meme	kaung meym

ENGLISH. PRONUNCIATION. FRENCH. although quoique couak that is c'est-à-dire sait-ah-deef 25 comme comm except that outre que ootr keh for car car because parceque parsk poorkoush why pourquoi and ai et therefore ainsi angsee consequently par conséquent par congsaycong



CONVERSATION IN FRENCH.



AVING by study of the foregoing made himself familiar with the salient features of the French grammar, the student will require to learn those niceties and elegancies of expression which make the French language the most graceful of all spoken tongues. These can be largely acquired by learning by heart the following vacabulary of phrases, which have been collated under different heads and thus will be the more readily memorized and more certainly retained.

CONSTANTLY OCCURRING EXPRESSIONS.

CONSTANTLY OCCURRING EXPRESSIONS.					
Tell me.	Dites-moi.	Deet mouah.			
If you please.	S'il vous platt.	Seel voo play.			
Have the goodness.	Ayez la bonté.	Aiyai lah bongtai.			
Yes, sir.	Oui, Monsieur.	Wee, mosseeu.			
Yes, Madam.	Oui, Madame.	Wee, madamm.			
Yes, Miss.	Oui, Mademoiselle.	Wee, madmouazel.			
No, sir.	Non, Monsieur.	Nong, mosseeu.			
Will you tell me?	Voulez vous me dire?	Voolai voo meh deer.			
I thank you.	Je vous remercie.	Jeh voo remmairsee.			
Do you speak English? French?	Parlez vous anglais? français?	Parlai-voo aunglai? fraunsai?			
I do not speak French.	Je ne parle pas fran- çais?	Jeh neh parl pah fraunsai.			
I understand.	Je comprends.	Jeh comprong.			
I do not understand.	Je ne comprends pas.	Jeh neh comprong pah.			
Do you understand?	Comprenez-vous?	Comprennai-voo.			
Give me some bread.	Donnes moi du pain.	Donnai mouah du pang.			
Bring me some coffee.	Apportez-moi du café.	Apportai-mouah du caffay.			
Thank you.	Merci.	Mairsee.			
Good morning.	Bon jour.	Bong joor.			
How do you do?	Comment vous portes	Commong voo por- tai voo?			
Very well.	Très-bien.	Tray becang.			
I am very well.	Je me porte fort bien.	Jeh meh port fore bee- ang.			
How is your father?		Commong seh port mosseeu votr pare?			
How is your mother?		Commong seh port maddam votr mare?			
She is not well.	Elle ne se porte pas bien.	El neh seh port pah beeang.			
She is ill.	Elle est malade.	El ai mallad.			
He is very ill.	Il est bien malade.	Eel ai beeang mallad.			
She has a cold.	Elle est enrhumée.	El ait aunreemay.			
I must go.	Il faut partir.	Eel fo parteer.			
	Au plaisir.	O playzeer.			
Farewell.	Adieu.	Adieu.			
		•			

ENGLISH.	FRENCH.	PRONUNCIATION.	ENGLISH.	FRENCH.	PRONUNCIATION.
Your servant.	Votre serviteur.	Votr sairveetur.	What does that mean?	Qu'est-ce que cela veut dire?	Case keh sla veuh deer?
morning.	bon jour.	Jeh voo sooste leh bong joor.	What is that good for?		Ah couah sia ait eel bong?
Good evening.	Bon soir.	Bong souar.			bong:
Good night.	Bonne nuit.	Bon nwee.		MORNING CHAT.	
	bonne nuit.	Jeh voo sooate une bon nwee.	What o'clock is it? It is near eight.	Quelle heure est-il?	Kel eur ait-eel? Eel ai pray deh weet
My compliments to your father.	tre père de ma part.	Salluai mossieu votr pare deh mah par.		heures.	eur. Fate du feuh.
I will not fail.	Je n'y manquerai pas.	Jeh nee maunkrai pah.	Light the fire. I am going to get up.	Faites du feu. Je vais me lever.	Jeh vay meh levvai.
	SPECULATORY.	•	water.	Peau chande.	Allai meh shairshai deh lo shode.
What!	Comment!	Commong!	Make haste.		Neh swoyai pah long-
Is it possible?	Serait-il possible!	Serrait-eel posseebl?		temps.	tong. Commont avai - voe
Who would have be- lieved it!	Qui l'aurait cru l	Kee loray cru!	How have you slept?	Comment aves - vous dormi?	dormee?
Indeed!	En vérité!	Ong vereetay.	Did you sleep well?	Aves-vous bien dormi l	'Avai-voo beeang dor- mee?
It is impossible.	Cela est impossible.	Slah ait amposseebl. Slah neh seh peu pah.	Very well thank you	Très.hien is nous re-	Tray beeang, jeh voo
That cannot be. I am astonished at it.	Cela ne se peut pas. Je' suis bien étonné.	Jong swee beean ai-		mercie.	remmairsee. Pah tray beeang.
It is incredible.	C'est incroyable.	tonnai. Sait angerwoyable.	Not very well.	Pas très-bien.	Jay dormee too dung
I am sorry for it.	Fen suis faché.	Jong swee fashai.	I hever worke an ingine	somme.	som.
It is a great pity.	C'est bien dommage.	Say becang dommaje.	I could not sleep.		Jeh nai pah pu dor-
		Sait ung grong mal-	_		meer.
tune.	heur.	leur.	I never closed my eyes.	Je n'ai pas fermé l'æil.	Jeh nai pah fairmay
I am very glad.	Je suis bien gise.	Jeh swee beean aze.	T have been up this	II uma hauma ana da	lile. Eel ee ah une eur keh
I am very glad of it. It gives me great joy.	Jen suis fort aise. Ten ai hien de la	Jong swee fort aze. Jon ay beeang deh	hour.	ne suis levé.	jeh meh swee levai.
regives me great joy.	joie.	lah jouah.	You are an early riser.		Vooz ait matteenal.
I wish you joy.	Je vous félicite.	Jeh voo faileeseet.	I generally rise early.		Jeh meh lave ordee-
		Jeh vooze ong fay		ment de bonne heure.	-
on it.	compliment.	mong compleemong.	Prochfort is roads	To diinburg out helt	eur. Leh daijeunay ai pray.
	AGE.		Breakfast is ready. 'Is breakfast ready?		Leh daijeunay ait eel
How old are you?	Quel age aves vous?		Come to breakfast.	Venez déjeûner.	pray? Vennay daijeunay.
I am twenty-two.	J'ai vingt-deux ans.		That is enough.	Cela est asses.	Sla ait assay.
I shan soon be thirty.	grai otenioi trente	Jay becangto traunt ong.	Some rolls.	Des petits pains.	Day pettee pang.
He looks older.	Il paratt plus Agé.	Eel paray pluze ahjai,	1 -		Prennay-voo du tay oo
		Jeh neh voo crwoyai	coffee?	du café ?	du caffay?
were so old.	si Agé.	pah see ahjai.	This cream is sour.	Cette creme s'est agrie.	Set crame sait agree. Voolay - voo maunjay
. 1	O ASK QUESTION	3.		un œuf l	un uf?
What do you say?	Que dites-vous ?	Keh deet voo?	These eggs are hard.	Ces œufs son durs.	Saze euf son dure.
Do you hear me?	M'entendex-vous?	Mauntaundai-voo?	Pass me the butter.		Passay mouah leh beur.
				To and and all mores	Tah coffor oit sel sessy
I don't speak to you.		Snay paz ah voo keh		Le café est-il asses fort?	fore?
Do you understand	que je parle.	Snay paz ah voo keh jeh parl. Meh comprennay voo?	Is the coffee strong enough? We want more cups.	fort?	
•	que je parle.	jeh parl.	enough? We want more cups.	fort? Il nous manque des	fore? Eel noo maunk day tass. Prenaze suncore du
Do you understand me?	que je parle. Me comprenes-vous? Ecoutes.	jeh parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz	enough? We want more cups. Takesome more sugar. A piece of toast.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie.	fore? Eel noo maunk day tass. Prenaze suncore du sucr. Une rotee.
Do you understand me? Listen.	que je parle. Me comprenes-vous ? Econtes. Approches — venes ici.	jen parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee.	enough? We want more cups. Take some more sugar. A piece of toast. Cold meat.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide.	fore? Eel noo maunk day tass. Prenaze suncore du sucr. Une rotee. De lah veeaund frouad.
Do you understand me? Listen. Come here. What is that?	que je parle. Me comprenes-vous? Ecoutes. Approches—venes ici. Qu'est-ce que cela?	jeh parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee. Case keh sla?	enough? We want more cups. Take some more sugar. A piece of toast. Cold mest. The table-cloth.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide. La nappe.	fore? Eel noo maunk day tass. Prenaze auncore du sucr. Une rotee. De lah veeaund frouad. Lah nap.
Do you understand me? Listen. Come here. What is that? Why don't you answer	que je parle. Me comprenes-vous? Ecoutes. Approches—venes ici. Qu'est-ce que cela? ? Pourquoi ne répondes- vous pas?	jen parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee. Case keh sla? Poorcouah neh raipon- dai voo pah?	enough? We want more cups. Take some more sugar. A piece of toast. Cold meat. The table-cloth. The sugar-bowl.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide. La wappe. Le sucrier.	fore? Eel noo maunk day tass. Prenaze auncore du sucr. Une rotee. De lah veeaund frouad. Lah nap. Leh sucreesy.
Do you understand me? Listen. Come here. What is that? Whydon't you answer: What do you mean?	que je parle. Me comprenes-vous? Ecoutes. Approches—venes ici. Qu'est-ce que cela? Pourquoi ne répondes- vous pas? Que voules-vous dire?	jen parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee. Case keh sla? Poorcoush neh raipondai voo pah? Keh voolai-voo deer?	enough? We want more cups. Take some more sugar. A piece of toast. Cold mest. The table-cloth.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide. La nappe.	fore? Eel noo maunk day tass. Prenaze auncore du sucr. Une rotee. De lah veeaund frouad. Lah nap.
Do you understand me? Listen. Come here. What is that? Whydon't you answer: What do you mean?	que je parle. Me comprenes-vous? Ecoutes. Approches—venes ici. Qu'est-ce que cela? Pourquoi ne répondes- vous pas? Que voules-vous dire?	jen parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee. Case keh sla? Poorcouah neh raipon- dai voo pah?	enough? We want more cups. Take some more sugar. A piece of toast. Cold meat. The table-cloth. The sugar-bowl. Chocolate.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide. La nappe. Le sucrier. Du chocolat. Un couteau. Ce couteau ne coupe	fore? Eel noo maunk day tass. Prenaze suncore du sucr. Une rotee. De lah veeaund frouad. Lah nap. Leh sucreeay. Du shocolah.
Do you understand me? Listen. Come here. What is that? Whydon't you answer: What do you mean? Don't you speak French? Very little, sir.	que je parle. Me comprenes-vous? Ecoutes. Approches — venes ici. Qu'est-ce que cela? Pourquoi ne répondes- vous pas? Que voules-vous dire! Ne parles - vous pas français? Bien peu, Monsieur.	jen parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee. Case keh sla? Poorcouah neh raipon- dai voo pah? Keh voolai-voo deer? Neh parlai voo pah fraunsay? Beeang peuh, mossieu.	enough? We want more cups. Take some more sugar. A piece of toast. Cold meat. The table-cloth. The sugar-bowl. Chocolate. A knife. This knife is blunt.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide. La nappe. Le sucrier. Du chocolat. Un couteau. Ce couteau ne conpe pas.	fore? Eel noo maunk day tass. Prenaze auncore du sucr. Une rotee. De lah veeaund frouad. Lah nap. Leh sucreesy. Du shocolah. Ung cooto. Seh cooto neh coop pas.
Do you understand me? Listen. Come here. What is that? Whydon't you answer: What do you mean? Don't you speak French? Very little, sir.	que je parle. Me comprenes-vous? Ecoutes. Approches — venes ici. Qu'est-ce que cela? Pourquoi ne répondes- vous pas? Que voules-vous dire! Ne parles - vous pas français? Bien peu, Monsieur.	jen parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee. Case keh sla? Poorcouah neh raipon- dai voo pah? Keh voolai-voo deer? Neh parlai voo pah fraunsay?	enough? We want more cups. Take some more sugar. A piece of toast. Cold meat. The table-cloth. The sugar-bowl. Chocolate. A knife. This knife is blunt. We have done breakfast.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide. La nappe. Le sucrier. Du chocolat. Un couleau. Ce conteau ne coupe pas. Nous avons fini de dijeuer.	fore? Eel noo maunk day tass. Prenaze auncore du sucr. Une rotee. De lah veeaund frouad. Lah nap. Leh sucreeay. Du shocolah. Ung cooto. Seh cooto neh coop pas. Nooz avong feenee deh daijeunay.
Do you understand me? Listen. Come here. What is that? Whydon't you answer: What do you mean? Don't you speak French? Very little, sir. Do you know Mr. H.? I know him by sight.	que je parle. Me comprenes-vous? Ecoutes. Approches — venes ici. Qu'est-ce que cela? Pourquoi ne répondes- vous pas? Que voules-vous dire? Ne parles-vous pas français? Bien peu, Monsieur. Connaisses-vous Men- sieur H.? Je le connaie de vue.	jen parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee. Case keh sla? Poorcoush neh raipondai voo pah? Keh voolai-voo deer? Neh parlai voo pah fraunsay? Beeang peuh, mossieu. Connaissai voo mossieu H.? Jeh leh connay deh vu.	enough? We want more cups. Take some more sugar. A piece of toast. Cold meat. The table-cloth. The sugar-bowl. Chocolate. A knife. This knife is blunt. We have done breakfast.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide. La nappe. Le sucrier. Du chocolat. Un couleau. Ce conteau ne coupe pas. Nous avons fini de di-	fore? Eel noo maunk day tass. Prenaze auncore du sucr. Une rotee. De lah veeaund frouad. Lah nap. Leh sucreeay. Du shocolah. Ung cooto. Seh cooto neh coop pas. Nooz avong feenee deh daijeunay.
Do you understand me? Listen. Come here. What is that? Whydon't you answer: What do you mean? Don't you speak French? Very little, sir. Do you know Mr. H.? I know him by sight.	que je parle. Me comprenes-vous? Ecoutes. Approches — venes ici. Qu'est-ce que cela? Pourquoi ne répondes- vous pas? Que voules-vous dire? Ne parles-vous pas français? Bien peu, Monsieur. Connaisses-vous Men- sieur H.? Je le connaie de vue.	jeh parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee. Case keh sla? Poorcouah neh raipondai voo pah? Keh voolai-voo deer? Neh parlai voo pah fraunsay? Beeang peuh, mossieu. Connaissai voo mossieu H.?	enough? We want more cups. Take some more sugar. A piece of toast. Cold meat. The table-cloth. The sugar-bowl. Chocolate. A knife. This knife is blunt. We have done breakfast.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide. La nappe. Le sucrier. Du chocolat. Un couleau. Ce conteau ne coupe pas. Nous avons fini de dijeuier. THE DINNER-TAR	fore? Eel noo maunk day tass. Prenaze auncore du sucr. Une rotee. De lah veeaund frouad. Lah nap. Leh sucreeay. Du shocolah. Ung cooto. Seh cooto neh coop pas. Nooz avong feenee deh daijeunay.
Do you understand me? Listen. Come here. What is that? Why don't you answer: What do you mean? Don't you speak French? Very little, sir. Do you know Mr. H.? I know him by sight. I know him by name.	que je parle. Me comprenes-vous? Ecoutes. Approches — venes ici. Qu'est-ce que cela? Pourquoi ne répondes- vous pas? Que voules-vous dire? Ne parles - vous pas français? Bien peu, Monsieur. Connaisses-vous Men- sieur H.? Je le connais de vue. Je le connais de nom.	jeh parl. Meh comprennay voo? Aicootai. Aproshai — Vennaiz eessee. Case keh sla? Poorcouah neh raipon- dai voo pah? Keh voolai-voo deer? Neh parlai voo pah fraunsay? Beeang peuh, mossieu. Connaissai voo mos- sieu H.? Jeh leh connay deh vu. Jeh leh conaay deh	enough? We want more cups. Take some more sugar. A piece of toast. Cold meat. The table-cloth. The sugar-bowl. Chocolate. A knife. This knife is blunt. We have done breakfast. AT Show me the bill of fare.	fort? Il nous manque des tasses. Prenes encore du sucre. Une rôtie. De la viande froide. La nappe. Le sucrier. Du chocolat. Un couteau. Ce conteau ne coupe pas. Nous avons fini de déjeduer. THE DINNER-TAR Montres-moi la carte.	fore? Eel noo maunk day tass. Prenaze auncore du sucr. Une rotee. De lah veeaund frouad. Lah nap. Leh sucreeay. Du shocolah. Ung cooto. Seh cooto neh coop pas. Nooz avong feenee deh daijeunay. BLE. Mongtray mouah lah

ENGLISH. FRENCH. PRONU	NCIATION.	BED-TIME.	
Maccaroni soup. De la soupe au maca- Deh lah	soup o mac- ENGLISH.	FRENCH. PRONUNCIATI	ION.
roni. Have you any roast- Aves-vous du bæuf Avay-voc	3 b	est tard. Eel ai tar.	
beef? rôi? tee?	It is not rate. 25	n'est pas tard. Eel nay pah tar.	
Not to-day. Pas aujourd'hui. Paz ojoon		l'est encore de bonne Rel ait auncore	e deh
We have very fine fish. Nous avons de trés-bon Nooz avo		heure, bon eur. Stes-vous fatigué. Ait voo fateegay	•
	-bases 1 Me you meu.	coint du tout. Pouang du too.	•
What wines will you Quels vins Monsieur Kel vang	i dan I	as beaucoup. Pa bocoo.	
have? désire-t-il? zeer-t-e	It is only ten.	n'est que dix heures. Eel nay keh deez	e eur.
Let us see. Voyons. Vwoiyon	It is time to go to bed. II	est l'heure de se cou- Eel ai leur de	
		cher. cooshay.	
We shall dine at six Nous dinerons à six Noo de o'clock.		la chambre est elle Ma shaumbr a	it e
Be punctual. Soyez exacte. Swoyaiz		prête? prate?	
What shall I help you Que vous servirai-je? Keh vos	Oo and see.	llex voir. Allay vouahr.	
to?	A DIAMACL	Ine couverture de Une coovairture laine, lane.	e den
Will you take some Voulez-vous un peu de Voolai-vo		Son soir. Bong soughr.	
soup? soupe? deh sou	- Ooou mgna 20	e vous souhaite une Jeh-voo sooate w	ne bon
No, thank you. Merci bien. Mairsee b		bonne nuit. nwee.	
Willingly. Très-volontiers. Tray volo	ntyai. I am sleepy.	ai sommeil. Jay sommail.	
Help yourself. Serves-vous. Sairvai vo	Are you sleepy? A	vez-vous sommeil? Avay-voo somm	ail?
Do you take pepper? Mangez-vous le poivre? Maunjai ahvr.	oo leh pou-	HE TIME OF DAY.	
Potatoes. Des pommes de terre. Day pom	leh tare. What o'clock is it by	uelle heure est-il à Kel eur nit-eel	a voti
The mustard pot. Le moutardier. Leh moot		voire montre? mauntr?	
Give me a clean fork. Donnes-moi une four- Donna	mouah une It has stopped. E	Elle s'est arrêtée. El sait arraytai.	
chette propre. foorshe	propr. I forgot to wind it up. F	Fai oublié de la mon-Jay oobleeay d	deh la
Are you hungry? Avez-vous faim? Avay-voc		ter. mauntay.	
I am hungry. Jai faim. Jay fang.		<i>la montre est en</i> Mamauntr	ait an
. .	7.7 1	avance. avaunce.	
Are you thirsty? Avez-vous soif. Avay voo		Elle avance. El avaunce. El ait ong retard	
I am very thirsty. Jai bien soif. Jay beear I am dying of thirst, Je meurs de soif. Je meur de		Elle est en retard. El ait ong retard Elle retarde d'un quart El retard duns	
Take a glass of wine. Prenez un verre de vin. Prennaze		d'heure. deur.	6 ~~.
Vang.		Elle va bien. El va becang.	
		fuit heures moins un Wheet eur mous	ins ung
drink. bouahr.		quart. kar.	_
A cork-screw. Un tire-bouchon. Ung teer	ooshong. Midnight. M	linuit. Meenwee.	
	1	Iidi. Meedee.	
TALK AT THE TEA-TABLE.	A quarter past one. U	Ine heure et quart. Une eur ai kar.	
Tea is quite ready. Le the est tout pret. Let tay : They are waiting for On vous attend. Ong voor	too pray. Twenty minutes to six. Si	Puatre heures et demie. Katreur ai demn Six heures moins vingt. Seece eur m	nee. nouang
you.	- I .	vang. Veuf heures viennent Neuv eur veeye	en deh
I am coming. Me voici. Meh vwo		de sonner. sonnay.	
Pour out the tea. Versex le thé. Vairsay l		Sept heures dix mi- Set eur dee meer	nute.
Bring a saucer. Apportes une soucoupe. Apportes		nuies.	
coop,	Exactly three o'clock. The	Trois heures juste. Trouaz eur juste	e.
Ring, if you please. Sonnes, s'il vous platt. Sounay s		Voila Phorloge qui Vwoylalorlojek	ee son.
A little more milk. Encore un peu de lait. Auncore lay.	ung peu den	sonne.	
What will you take? Que prendres-vous? Keh prac	ndray yoo?	HE PROMENADE.	
A slice of bread and Une beurree-une tar- Une beu		rons - nous fairs un Eerong noo far	e ung
butter. tine de beurre, teen de		petit tour? , pettee toor?	_
Hand the plate. Passes l'assiette. Passay la	ssyett. Willingly. D	De tout mon caur. Deh too mong k	eur.
Will you take some Voulez - vous du gû- Voolay v		Par où irons-nous? Par oo eerong no	
cake? teau?	On the high road. So	Sur la grande route. Sure la graunde	
A small piece. Un petit morceau. Ung pett		l y fail beaucoup de Eel ee fay bocc	oo deh
Make some toast. Faites encore des ro- Fates au		poussière. poossyare.	oine
lies. tee.	J	Dans la campagne. Dong la caumps On moissonne. Ong mwoysson.	
Make haste. Depêchez-vous. Daypays This is excellent tea. Voilà d'excellent thé. Vwoyla e	They are reaping. O excellong tay. They are making hay. O		'
The tea-tray. Le cabaret. Leh cabl	What a nless and scent!	Quelle odeur déli- Kel odeur dai	leesee-
The milk jug. Le pot au lait. Leh pote		cieuse! yeuse.	
A set of tea-things. Un service. Ung sair		Ine moisson (une ré- Une mwoysson	g (une
Brown bread. Du pain bis. Du pang	bee.	colte) abondante. raicolt) abaund	daunte.
	olong. Let us cross this field. The	raversons ce champ. Travairsong seh	
White bread. Du pain blanc. Du pang			
White bread. Du pain blanc. Du pang Stale bread. Du pain rassis. Du pang New bread. Du pain frais. Du pang	assee. Which is the way to A.? 2	Quel est le chemin pour Kel ai leh sher aller à A.? pour allay ah	

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THE FRENCH LANGUAGE.

ENGLISH.	FRENCH.	PRONUNCIATION.	ENGLISH.	FRENCH.	PRONUNCIATION.
Where does this road lead?	Où conduit cette route?	Oo conawee set roots	We must soon begin fires.		Eel fodrah keh noos ayong du feu soo peu.
Which way am I to go?	De quel côté faut-il que j'aille?	Deh kel cotay fot eel keh j'acel?	We have had a fire al- ready.		Nooz avong dayjah fay du feu.
Straight before you.	Allez droit devant	Allay drough devong	•		Eel fay beeangto nwee.
To the left	vous.	v 00.	It is a fine night.	Il fait une belle nuit.	Rel fait une bel nwee.
To the left. To the right.	A gauche. A droite.	Ah goshe. Ah drouate.	A dark night. Is it moonlight?		Une nwee obscure. Fait-eel clare deh lune.
About a mile.	Environ un mille.	Ongveerong ung meel.			Crweiyai - voo keel
Hardly a mile.	A peine un mille.	Ah pane ung meel.	rain?	pleuve?	pleuv?
Let us go in.	Rentrons.	Rauntrong.	I am afraid so.	Jen ai peur.	Jon ai peur.
P	ERSONAL ENQUIR	ies.	It rains. It drizzles.	Il pleut. Il bruine.	Eel pleu. Eel brueene.
Do you know Mr. F.?	Connaisses vous Mon-	Connassay voo mos-	It pours.	Il pleut à verse.	Eel pleut a vairse,
•	sicur F.?	sieu F.?	It is very windy.	Il fait bien du vent.	Eel fay beeang du vong
	Je ne connais personne	Jeh neh connay pairson	It is winter.	Nous voilà dans Phiver.	Noo vwoils dong lee- vair.
of that name.	de ce nom.	deh seh nong.	It is very cold.		Eel fait excesseevmong
I know him. Intimately.	Je le connais.	Jeh leh connay.	it is very colu.	froid.	frough.
	Intimement. Te suis très-lik avec	Angteememong. Jeh swee tray leesy	It is bad weather.	Il fait mauvais temps.	Eel fay movay tong.
with him.	lui.	avec lwee.	Cloudy weather.	Un temps gris.	Ung tong gree.
		Eel ait ung deh maze	It is foggy.	Il fait du brouillard.	
		amee.	The sky is overcast,	Le ciel est pris de tous côtés.	Leh seeyel ai pree deh too cotay.
		Jeh leh connay depwee	It snows.		Eel naje.
long time.	longtemps.	longtong.	It freezes,	Il gèl e.	Eel jale.
law.	C'est mon beau-frère.	Sat mong bo-trare.	Can you skate?	Saves-vous patiner.	Savay voo pateenay?
Do you know him?	Le connaisses-vous?	Leh connaissay-voo.	It thaws.	Il dégèle.	Eel daijale.
I know him very well.	Je le connais parfaite.	Jeh leh connay parfate-	Christmas.	Noel.	Noel.
	ment.	mong.	New Year's day.	Le jour de l'an. Allumez le feu.	Le joor deh long. Allumay leh feu.
Where does he live?		Oo demmeur-t-eel?	Light the fire.		Jeshairshe lay pangset.
Close by. A step or two from	Ici près.	Ressee pray. Ah deu pa deessee.	tongs.	cettes.	,, p
w steb or two trout	A aeux pas a ici.				
here.	-	-	Are there any coals?	Y-a-t-il du charbon ?	Ee at eel du sharbong.
here. Is it far?	Est-ce loin?	Ai-ce louang.	Tell the servant to	Dites à la servante	Deets ah lah sairvaun
Is it far? Can you direct me to		-			
Is it far? Can you direct me to his house?	Pouvez - vous m'indi- quer sa maison?	Ai-ce louang. Poovay - voo mandee - kay sah maisong?	Tell the servant to bring some.	Dites à la servante d'en apporter.	Deets ah lah sairvaun don opportay.
Is it far? Can you direct me to his house?	Pouvez - vous m'indi- quer sa maison?	Ai-ce louang. Poovay - voo mandee -	Tell the servant to bring some. GEN	Dites à la servante d'en apporter. ERAL CONVERSA!	Deets ah lah sairvaun don opportay.
Is it far? Can you direct me to his house? I will show you where	Pouves vous m'indi- quer sa maison? Je vous montrerai où il demeure.	Ai-ce louang. Poovay-voo mandee- kay sah maisong? Jeh voo mauntrerai oo	Tell the servant to bring some. GEN Can you read French?	Dites à la servante d'en apporter. ERAL CONVERSA: Pouves-vous lire le français?	Deets ah lah sairvaun don opportay. FION. Poovay voo leer leh fraunsay?
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Is it far? Can you direct me to his house? I will show you where	Pouves vous m'indiquer sa maison? Je vous montrerai où il demeure. THE SEASONS. Voilà le printemps ar-	Ai-ce louang. Poovay-voo mandee- kaysah maisong? Jeh voo mauntrerai oo eel demmeur. Vwoila leh prangtongs	Tell the servant to bring some. GEN Can you read French? You read very well. Do you speak French?	Dites à la servante d'en apporter. ERAL CONVERSA! Pouves-vous lire le français? Vous lises très-bien. Parles-vous français?	Deets ah lah sairvaun don opportay. FION. Poovay voo leer leh fraunsay? Voo leesay tray beeang. Parlay voo fraunsay?
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LOISETTE MEMORY SYSTEM.

🖚 The • Art • of • Never • Forgetting. 🗠





MUCH has been said about the Loisette memory system, the art has been so widely advertised, and so carefully guarded from all the profane who do not send five or many dollars to the Professor, that a few

pages showing how every man may be his own Loisette, may be both interesting and valuable.

In the first place, the system is a good one, and well worth the labor of mastering, and if the directions are implicitly followed there can be no doubt that the memory will be greatly strengthened and improved, and that mnemonic feats otherwise impossible may be easily performed. Loisette, however, is not an inventor but an introducer. He stands in the same relation to Dr. Pick that the retail dealer holds to the manufacturer: the one produced the article; the other brings it to the public. Even this statement is not quite fair to Loisette, for he has brought much practical common sense to bear upon Pick's system, and, in preparing the new art of mnemonics for the market, in many ways he has made it his own.

If each man would reflect upon the method by which he himself remembers things, he would find his hand upon the key of the whole mystery. For instance, the author was once trying to remember the word *blythe*. There occurred to my mind the words "Bellman," "Belle," and then the verse:

"— the peasant upward climbing Hears the bells of Buloss chiming."

"Barcarole," "Barrack," and so on until finally the word "blythe" presented itself with a strange insistance, long after I had ceased trying to recall it.

On another occasion when trying to recall the name "Richardson" I got the words "hayrick," "Robertson," "Randallstown," and finally "wealthy," from which, naturally, I got "rich" and "Richardson" almost in a breath.

Still another example: trying to recall the name of an old schoolmate, "Grady," I got "Brady," "grave," "gaseous," "gastronome," "gracious," and I finally abandoned the attempt, simply saying to myself that it began with a "G," and there was an "a" sound after it. The next morning, when thinking of something entirely different, this name "Grady" came up in my mind with as much distinctness as though someone had whispered it in my ear. This remembering was done without any conscious effort on my part, and was evidently the result of the exertion made the day before when the mnemonic processes were put to work. Every reader must have had a similar experience

which he can recall, and which will fall in line with the examples given.

It follows, then, that when we endeavor, without the aid of any system, to recall a forgotten fact or name, our memory presents to us words of similar sound or meaning in its journey toward the goal to which we have started it. This goes to show that our ideas are arranged in groups in whatever secret cavity or recess of the brain they occupy, and that the arrangement is one not alphabetical exactly, and not entirely by meaning, but after some fashion partaking of both.

If you are looking for the word "meadow" you may reach "middle" before you come to it, or "Mexico," or many words beginning with the "m" sound, or containing the "dow," as "window," or "dough," or you may get "field" or "farm"-but you are on the right track, and if you do not interfere with your intellectual process you will finally come to the idea which you are seeking.

How often have you heard people say. "I forgot his name, it is something like Beadle or Beagle—at any rate it begins with a B." Every one of these were unconscious Loisettians, and they were practicing blindly, and without proper method or direction, the excellent system which he teaches. The thing, then, to do—and it is the final and simple truth which Loisette teaches -is to travel over this ground in the other direction-to cement the fact which you wish to remember to some other fact or word which you know will be brought out by the implied conditions-and thus you will always be able to travel from your given starting point to the thing which you wish to call to mind.

To illustrate: let the broken line in the annexed dia-

gram represent a train of thought. If we connect the idea "a" with "e" through the steps b, c and d, the tendency of the mind ever afterwards will be to get to e from a that way, or from any of the intermediates that way. It seems as though a channel were cut in our mindstuff along which the memory flows. How to make it flow this way will be seen later on. Loisette, in common with all the mnemonic

teachers, uses the old device of representing numbers by letters—and as this is the first and easiest step in the art,

this seems to be the most logical place to introduce the accepted equivalents of the Arabic numerals:

 $\mathbf{0}$ is always represented by s, z or c soft. 1 is always represented by t, th or d. 2 is always represented by n.

3 is always represented by *m*.

4 is always represented by r. 5 is always represented by l.

6 is always represented by sk, j, ck soft or g soft.

7 is always represented by g hard, k, c hard, q or final ng. 8 is always represented by f or v.

9 is always represented by p or b.

All the other letters are used simply to fill up. Double letters in a word count only as one. In fact the system goes by sound, not by spelling—for instance "this" or "dizzy" would stand for *ten*; "catch" or "gush" would stand for 76, and the only difficulty is to make some word or phrase which will contain only the significant letters in the proper order, filled out with non-significant into some guise of meaning or intelligibility.* Suppose you wished to get some phrase or word that would express the number 3685, you arrange the letters this way:

	8	~	6		8		5
a	m	а	sh	a	f	a	1
e		e	l j	e	v	e	
i	ļ.	i	ch	i		e i	ŀ
0	ł	0	g	0		0	ł
u	l	u	-	u	i	u	1
h	į	h	1	h		h	1
u h w	ł	w		w		w	ì
x	ł	x	l	.х		x	1
у		у	[y		у	l

You can make out "image of law," "my shuffle," "matchville," etc., etc., as far as you like to work it out.

Now, suppose you wish to memorize the fact that \$1,000,000 in gold weighs 3,685 pounds, you go about it in this way, and here is the kernel and crux of Loisette's

system:
"How much does \$1,000,000 in gold weigh?"

"Weigh—scales."
"Scales—statue of Justice."

"Statue of Justice-image of law."

The process is simplicity itself. The thing you wish to recall, and that you fear to forget, is the weight; consequently you cement your chain of suggestion to the idea which is most prominent in your mental question. What do you weigh with? Scales. What does the mental picture of scales suggest? The statue of Justice, blindfolded and weighing out award and punishment to man. Finally, what is this statue of Justice but the image of law? and the words "image of law," translated back from the significant letters m, g soft, f and l, give you 3-6-8-5, the number of pounds in \$1,000,000 in gold. You bind together in your mind each separate step in the journey, the one suggests the other, and you will find, a year from now, that the fact will be as fresh in your memory as it is

^{*}You can remember the equivalents by noting the fact that x is the first letter of "zero," and c of "cipher," t has but one stroke, n has two, m three. The script f is very like 8, the script f like 9, r is the last letter of four, t is the roman numeral for fifty, which suggests five. The others may be retained as memorizing these two nonsense lines. gests five. The

Six shy Jewesses chase George Seven Great Kings came quarreling.

You cannot lose it. It is chained to you by an to-day. You cannot lose it. It is chained to you by an unbreakable mnemonic tie. Mark, that it is not claimed that "weight" will of itself suggest "scales" and "scales" "statue of Justice," etc., but that, having once passed your attention up and down that ladder of ideas, your mental tendency will be to take the same route, and get to the same goal again and again. Indeed, beginning with the weight of \$1,000,000, "image of law" will turn up in your mind without your consciousness of any intermediate station on the way, after some iteration and reiteration of the original chain.

Again, so as to fasten the process in the reader's mind even more firmly, suppose that it were desired to fix the date of the battle of Hastings (A. D. 1066) in the memory; 1066 may be represented by the words "the wise judge" (th = 1, s = 0, j = 6, dg = 6; the others are nonsignificants); a chain might be made thus:

Battle of Hastings-arbitrament of war. Arbitrament of war-arbitration. Arbitration—judgment. Judgment-the wise judge.

Make mental pictures, connect ideas, repeat words and sounds, go about it any way you please, so that you will form a mental habit of connecting the "battle of Hastings" with the idea of "arbitrament of war," and so on for the other links in the chain, and the work is done.

Loisette makes the beginning of his system unnecessarily difficult, to say nothing of his illogical arrangement in the grammar of the art of memory, which he makes the first of his lessons. He analyzes suggestion into-

- I. Inclusion.
- 2. Exclusion.
- 3. Concurrence.

All of which looks very scientific and orderly, but is really misleading, and badly named. The truth is that one idea will suggest another.

I. By likeness or opposition of meaning, as "house" suggests "room" or "door," etc.; or "white" suggests "black," "cruel," "kind," etc.

2. By likeness of sound, as "harrow" and "barrow"; "Henry" and "Hennepin."

3. By mental juxtaposition, a peculiarity different in 3. By mental juxtaposition, a peculiarity different in each person, and depending upon each one's own experiences. Thus, "St. Charles" suggests "railway bridge" to me, because I was vividly impressed by the breaking of the Wabash bridge at that point. "Stable" and "broken leg" come near each other in my experience, so do "cow" and "shot-gun" and "licking."

Out of these three sorts of suggestion it is possible to

Out of these three sorts of suggestion it is possible to get from any one fact to any other in a chain certain and safe, along which the mind may be depended upon afterwards always to follow.

The chain is, of course, by no means all. Its making and its binding must be accompanied by a vivid, methodically directed attention, which turns all the mental light gettable in a focus upon the subject passing across the mind's screen. Before Loisette was thought of this was known. In the old times in England, in order to impress upon the mind of the rising generation the parish boundaries in the rural districts, the boys were taken to each of the landmarks in succession, the position and bearings of each pointed out carefully, and, in order to deepen the impression, the young people were then and there vigorously thrashed, a mechanical method of attracting the attention which was said never to have failed. This system has had its supporters in many of the old-fashioned schools, and there are men who will read these lines who can recall, with an itching sense of vivid expression, the 144 lickings which were said to go with the multiplication

In default of a thrashing, however, the student must cultivate as best he can an intense fixity of perception upon every fact or word or date that he wishes to make permanently his own. It is easy. It is a matter of habit. If you will you can photograph an idea upon your cerebral gelatine so that neither years nor events will blot it out or overlay it. You must be clearly and distinctly aware of the thing you are putting into your mental treasure-house, and drastically certain of the cord by which you have tied it to some other thing of which you are sure. Unless it is worth your while to do this, you might as well abandon any hope of mnemonic improvement, which will not come without the hardest kind of hard work, although it is work that will grow constantly easier with practice and reiteration.

You need, then:

- Methodic suggestion.
 Methodic attention.
- 3. Methodic reiteration.

And this is all there is to Loisette, and a great deal it Two of them will not do without the third. You do not know how many steps there are from your hall door to your bed-room, though you have attended to and often reiterated the journey. But if there are twenty of them, and you have once bound the word "nice," or "nose," or "news," or "hyenas" to the fact of the stairway, you could never forget it.

The Professor makes a point, and very wisely, of the importance of working through some established chain, so that the whole may be carried away in the mind—not alone for the value of the facts so bound together, but for

the mental discipline so afforded.

Here, then, is the "President Series," which contains the name and the date of inauguration of each president from Washington to Cleveland. The manner in which it is to be mastered is this: Beginning at the top, try to find in your mind some connection between each word and the one following it. See how you can at some future time make one suggest the next, either by suggestion of sound or sense, or by mental juxtaposition. When you have found this, dwell on it attentively a moment or two. Pass it backward and forward before you, and then go on to the next step.

The chain runs thus, the names of the presidents being in small caps, the date words in italics:

• '	
President	Chosen as the first word as the one most apt to occur to the mind of any one wishing to
	repeat the names of the presidents.
	President and dentist.
	What does a dentist do?
To give up	When something is drawn from one it is given up. This is a date phrase meaning 1789.
Self-sacrifice	There is an association of thought between giving up and self-sacrifice.
WASHINGTON	Associate the quality of self-sacrifice with Washington's character.
Morning wash	Washington and wash.
Dew	Washington and wash. Early wetness and dew.
121 banda	Duni and damana
Took a howavet	Flowers and bouquet. Date phrase (1707)
Garden	Bouquet and garden
Eden	Flowers and bouquet. Date phrase (1707). Bouquet and garden. The first garden. Juxtaposition of thought. Suggestion by sound. Juxtaposition of thought. Fall and failure.
Adam	Juxtanosition of thought
ADAMS	Suggestion by sound
Fall	Justanosition of thought
Failum	Fall and failure
D.C.M	Upon a failure there is usually a deficit. Date
	word (1801)
Debt	The consequence of a deficit.
Bonds	Debt and bonds.
Confederate bonds -	Suggestion by meaning.
Jefferson Davis	Juxtaposition of thought.
TUPERDEAN	• • • • • • • • • • • • • • • • • • • •

Now follow out the rest for yourself, taking about ten at a time, and binding those you do last to those you have done before each time, before attacking the next bunch.

1	2	8
TEFFERSON	the fraud	the heavy shell
Judge Jeffreys	painted clay	mollusk
bloody assize	baked clay	unfamiliar word
bereavement	tiles	dictionary
too heavy a job	TYLER	Johnson's
parental grief	Wat Tyler	Johnson
mad son	poll tax	son
MADISON	compulsory	bad son
Madeira	free will	dishonest boy
first-rate wine	free offering	thievish boy
frustrating	burnt offering	take
defeating	poker	give
feet	Polk	GRANT
toe the line	end of dance	award
row	termination "ly"	school premium
Monroe	adverb	examination
row	part of speech	cramming
boat	part of a man	fagging
steamer	TAYLOR	laborer
the funnel	measurer	hay field
windpipe	theodolite	HAYES
throat	Theophilus	hazy
quinzy	fill us	clear
QUINCY ADAMS	FILLMORE	vivid
quince	more fuel	brightly lighted
fine fruit	the flame	camp fire war field
the fine boy	flambeau bow	GARFIELD
sailor boy	arrow	Guiteau
sailor	Pierce	murderer
jack tar Jackson	hurt	prisoner
stone wall	feeling	prison fare
indomitable	wound	half fed
tough make	soldier	well fed
oaken furniture	cannon	well read
bureau	BUCHANAN	author
VAN BUREN	rebuke	ARTHUR
rent	official censure	round table
side-splitting	to officiate	tea table
divert	wedding	tea cup
annoy	linked	half full
harassing	LINCOLN	divide
HARRISON	link	cleave
Old Harry	stroll	CLEVELAND
the tempter	sea shore	1

It will be noted that some of the date words, as "free will," only give three figures of the date, 845; but it is to be supposed that if the student knows that many figures in the date of Polk's inauguration he can guess the other one.

The curious thing about this system will now become apparent. If the reader has learned the series so that he can say it down, from President to Cleveland, he can with no effort, and without any further preparation, say it backwards from Cleveland up to the commencement! There could be no better proof that this is the natural mnemonic system. It proves itself by its works.

The series should be repeated backwards and forwards every day for a month, and it should be supplemented by a series of the reader's own making, and by this one, which gives the numbers from o to 100, and which must be chained together before they can be learned.

	0 —hoes	
ı-wheat	34—mare	67—jockey
2—hen	35—mill 36—image	67—jockey 68—shave
3-home	36—image	69—ship
4-hair	37—mug	70—eggs
5—oil	38—muff	71—gate
6—shoe	39—mob	72—gun
7—hook	40—race	73—comb
8—off	41—hart	74—hawker
9—bee	42—horn	75—coal
10—daisy	43—army	76—cage
11—tooth	44—warrior	77—cake
12—dine	45—royal	78—coffee
13—time	46—arch	79—cube
14-tower	47—rock	80-vase
15—dell	48-wharf	81—feet
16—ditch	49—rope	82—vein
17—duck	50-wheels	83fame
18-dove	51—lad	84—fire
19—tabby	52—lion	85-vial
20—hyenas	53—lamb	86—fish
21—hand	54—liar	87—fig
22—nun	55—lily	88—fife
23—name	56—lodge	89—fib
24—owner	57—lake	90—pies
25—nail	58—leaf	91—putty
26—hinge	59—elbow	92-pane
27—ink	60—chess	93—bomb
28—knife	61—cheat	95 bollis 94—bier 95—bell
29—knob	62—chain	95—pell
30—muse	63—sham	96—peach
31-mayday	64—chair	97—book
32—hymen	65—jail	98—beef
33—mama	66—judge	99—pope
	100—diocese	

By the use of this table, which should be committed as thoroughly as the President series, so that it can be repeated backwards and forwards, any date, figure or number can be at once constructed, and bound by the usual chain to the fact which you wish it to accompany.

chain to the fact which you wish it to accompany.

When the student wishes to go farther and attack larger problems than the simple binding of two facts together, there is little in Loisette's system that is new, although there is much that is good. If it is a book that is to be learned as one would prepare for an examination, each chapter is to be considered separately. Of each a precis is to be written in which the writer must exercise all of his ingenuity to reduce the matter in hand to its final skeleton of fact. This he is to commit to memory both by the use of the chain and the old system of interrogation. Suppose after much labor through a wide space of language one boils a chapter or an event down to the final irreducible sediment: "Magna Charta was exacted by the barons from King John at Runnymede."

You must now turn this statement this way and that way saking yourself chest it even considered the matter is made in the say and impaced.

You must now turn this statement this way and that way; asking yourself about it every possible and impossible question, gravely considering the answers, and, if you find any part of it especially difficult to remember, chaining it to the question which will bring it out. Thus, "What was exacted by the barons from King John at Runnymede?" "Magna Charta." "By whom was Magna Charta exacted from King John at Runnymede?" "By the barons." "From whom was," etc., etc.? "King John." "From what king," etc., etc.? "King John." "Where was Magna Charta," etc., etc.? "At Runnymede."

And so on and so on, as long as your ingenuity can suggest questions to ask, or points of view from which to

consider the statement. Your mind will be finally saturated with the information; and prepared to spill it out at the first squeeze of the examiner. This, however, is not the first squeeze of the examiner. This, however, is not new. It was taught in the schools hundreds of years befor Loisette was born. Old newspaper men will recall in connection with it Horace Greeley's statement that the test of a news item was the clear and satisfactory manner in which a report answered the interrogatories, "What?" "When?" "Where?" "Who?" "Why?"

In the same way Loisette advises the learning of poetry, e. g.,

"The Assyrian came down like a wolf on the fold."

"Who came down?"

"How did the Assyrian come down?"
"Like what animal did?" etc.

And so on and so on, until the verses are exhausted of every scrap of information to be had out of them by the most assiduous cross-examination.

Whatever the reader may think of the availability or value of this part of the system, there are so many easily applicable tests of the worth of much that Loisette has done, that it may be taken with the rest.

Few people, to give an easy example, can remember the value of 11—the ratio between the circumference and the diameter of the circle—beyond four places of decimals, or at most five—3. 141592+. Here is the value to 108 decimal places:

3. 14159265:3589793238:4626433832:7950288419:716939937 5:1058209749:4459230781:6406286208:9986280348:253421 1706:7982148086+

By a very simple application of the numerical letter values, these 108 decimal places can be carried in the mind and recalled about as fast as you can write them down. All that is to be done is to memorize these nonsense lines:

Mother Day will by any shawl. My love pick up my new must. A Russian jeer may move a woman. Cables enough for Utopia. Get a cheap ham pie by my cooley. The slave knows a bigger ape. I rarely hop on my sick foot.

Cheer a sage in a fashion safe. A baby fish now views my wharf. Annually Mary Ann did kiss a jay. A cabby found a rough savage.

Now translate each significant into its proper value and you have the task accomplished. "Mother Day," m = 3, th = 1, r = 4, d = 1, and so on. Learn the lines one at a time by the method of interrogatories. "Who will buy any shaw!?" "Which Mrs. Day will buy a shaw!?" "Is Mother Day particular about the sort of shawl she will buy?" "Has she bought a shawl?" etc., etc. Then cement the end of each line to the beginning of the next one, thus, "Shawl"—"warm garment"—"warmth"—"love"—"my love," and go on as before. Stupid as the work may seem to you, you can memorize the figures in work may seem to you, you can memorize the ingures in fifteen minutes this way so that you will not forget them in fifteen years. Similarly you can take Haydn's Dictionary of Dates and turn fact after fact into nonsense lines like these which you cannot lose.

And this ought to be enough to show anybody the

whole art. If you look back across the sands of time and find out that it is that ridiculous old "Thirfy days hath September" which comes to you when you are trying to think of the length of October—if you can quote your old prosody,

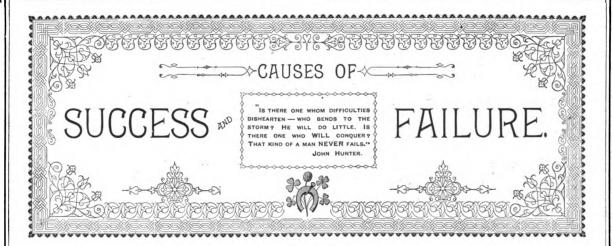
"O datur ambiguis," etc.,

with much more certainty than you can serve up your Horace; if, in fine, jingles and alliterations, wise and otherwise, have stayed with you, while solid and serviceable information has faded away, you may be certain that here is the key to the enigma of memory.

You can apply it yourself in a hundred ways. If you You can apply it yoursell in a hundred ways. It you wish to clinch in your mind the fact that Mr. Love lives at 485 Dearborn Street, what is more easy than to turn 485 into the word "rifle" and chain the ideas together, say thus: "Love—happiness—good time—picnic—forest—wood rangers—range—rifle range—rifle—fine weapon—costly weapon—dearly bought—Dearborn."

Or if you wish to remember Mr. Bowman's name, and you notice he has a mole on his face which is apt to attract your attention when you next see him, cement the ideas thus: "Mole, mark, target, archer, Bowman."





HILE it is impossible, in a world made up of widely differing individuals, to formulate a set of rules by which each could be shown the surest and swiftest

way to secure success in life, still it is possible to call attention to certain qualities of mind and character whose possession has come to be universally looked upon as essential to those who may aspire to struggle into the front rank of the world's workers. As a matter of fact, it would be as difficult to define the common expression "success in life" as it would be to lay down a royal road which leads to it. Given a hundred definitions, from as many men, each treating the subject from his own standpoint, and no two of them would be found alike; and the opinion of each of these, as time passed along with its inevitable ups and downs, would be found to vary considerably. Flushed with recent success, the speculator to-day would see in the possession of millions and in the control of vast interests the only proper goal for a man of his great genius; tamed a few days later by unexpected reverses, and he sees in some conservative enterprise the fittest sphere of his future usefulness. Perhaps, then, without attempting the impossible, in a definition of success in life which will fit all who are seeking it, it will do to look upon it as the

accomplishment of the laudable life-purpose of a man of natural or cultivated parts, who has found an object in life worth living and working for, and has worked honestly and perseveringly to attain it. As a rule, the larger the endowment of those faculties which go to build up success in life, the higher the aim which accompanies them; but it must not be forgotten that man is the most cultivable of all God's creatures, and that by careful and intelligent study of the qualities which have enabled others to shine, one may acquire them and employ them in building up similar accomplishments. This being so, it does not lie in the power of the young man who feels that he possesses only a moderate share of intelligence, force and ability, to decide, on this account, that he is not called upon to make fight for one of the front places in the life of his generation. The most brilliant lives have often been those of men of ordinary gifts, who, exerting to the utmost such power as has been given them, have accomplished more than hundreds of men who were much more bountifully supplied with mental qualifications. If any man look among the circle of his acquaintances he will be surprised to see how few have made the voyage of life successfully, and sorrow cannot but arise when he considers the impotent conclusions to which

young men of brilliant parts frequently come. Every day witnesses the triumph of patient and studious mediocrity, and men of great intellect are constantly being forced to acknowledge, with surprise, the success of persons whose abilities, in comparison with their own, have been deemed inconsiderable. These men know precisely the scope of their faculties, and never wander beyond them. They wait patiently for opportunities which are of the kind they can improve, and they never let one pass unimproved. Being unnoticed, they excite so much the less opposition, and at last they surprise the world by the attainment of an object which others deemed as far away from their ambition as it seemed beyond their reach.

How to Avoid Failure.

It is a common thing, with both the brilliant and the mediocre, when the reward of their exertions and the result of their plans seem unsatisfactory, to blame the ever-ready scapegoat, bad luck, as the cause of the untoward outcome. One of the most healthful and profitable exercises which a young man who has just experienced failure of any kind can perform, will be to analyze the whole transaction with merciless candor, finding out just what proportion of the disaster is due to his own fault and what is due to fortuitous circumstances, and then make a cold-blooded comparison. If this were more generally done than it is, there would be far fewer believers in, or rather blamers of, luck as a business marplot than are at present to be found. To come down to the facts in the case, without going so far as to dispute the existence of such a thing as chance, in almost all cases of failure the cause is to be found in the man, and the reason it is not found there is because that is the last place in which the man hunts for it. "Untoward accidents," "fate," "destiny," "illfortune," "evil star," "chance," "luck," or some other synonym of the scapegoat, suggests itself to the victim of illsuccess, and he consoles himself with charging upon it his failure. He has the poets on his side, too. Does not Shakspere say:

"There's a divinity that shapes our ends, Rough-hew them how we will."

And Byron:

"Men are the sport of circumstances, when The circumstances seem the sport of men."

And, after all has been said, it were better, perhaps, that the young business man place some little, very little, credence in luck's existence, just enough, in fact, to cause him to so organize upon solid and substantial foundation each of his enterprises, and to so honestly and perseveringly conduct them, that the smallest possible loop-hole will be left for ill-luck to make its appearance.

Choosing an Occupation

Is seldom an easy matter. In some few cases, a young man feels the possession of such an unmistakable bias to some peculiar profession that neither he nor his friends have any hesitancy in deciding upon his future. In most cases, however, there is no particular preference, and a wise decision is not reached before many considerations have been carefully weighed. In far too many cases wrong considerations are given attention, and a decision is reached whose ultimate result is a life failure which, had the profession been selected with greater wisdom, would not have happened. A socially ambitious father and mother check their young son's honest ambition to become a mechanic, send him to college, and make a briefless barrister out of the material which could have been moulded into an honest and efficient artisan. Many a boy whose soul yearned for the higher walks of intellectual culture, to share in which he had been endowed, has been doomed by injudicious parents, who despised colleges, to dull life at a dry-goods counter or countingroom desk. Parents are not by any means infallible judges upon this point, and every young man about to start out in search of success in life should study himself carefully in order to discover his aptitudes. The natural bent may be hard to find, but the discovery will well repay the search. Historical biography teems with the lives of men whose peculiar aptitude was early displayed to the advantage of themselves and the world. Napoleon, a school boy at Brienne, led the mimic armies of his youthful associates; Nelson had conceived the idea of future greatness as a sailor before he entered the navy; Pascal contributed to the mathematical literature of his age before he was seventeen; Pope acknowledged that

"While yet a child and still a fool of fame,
I lisped in numbers, for the numbers came;"

Dryden illustrated the growth of natural aptitude when he wrote:

"What the child admired
The youth endeavored, and the man acquired;"

Michael Angelo stayed away from school to draw pictures; Murillo covered his text-books with them; West, at seven, plundered the cat's tail of hair with which to make pencils; Calhoun, a student, held his own in debate with the college president—and so on, until the examples of the theory of natural aptitude become too numerous for recapitulation.

Taking for granted that one has discovered, or believes that he has discovered, his bent, he must beware of the danger which lies in fickleness of purpose, which may, shortly after the weariness of work begins to be felt, lead him to suppose that he has chosen unwisely, and that some other field of pusefulness would be more suitable to his temper and parts. It is the practical repetition of the old story of the travelter in the express train sighing for the quiet pleasure of the farmer, whose broad fields are flying past, while the farmer looks longingly at the train as it dashes by, and dreams of the enjoyable excitements of a life of endless bustle, stir and energy. Whatever the calling, there will be toil and trial for its

follower, and these come from him rather than from the occupation, which might be changed a dozen times in the vain hope of escaping from them. Having deliberately selected a profession, stick to it. The longer you remain in it, the more expert you become and the easier becomes the work and the larger the pay. It is only the early days which bring weariness and pain. These conquered by perseverance, the rest is easy, and the success in conquering the first pleadings of the siren fickleness of purpose, who is of closer kin to laziness than one might think, lays the corner-stone of success in life.

Excelsior!

Having chosen his occupation, the young man of proper ambition will not be long in selecting for himself an honorable position in it, to be filled as soon as he has shown himself worthy and able. What men have accomplished shows that hardly any ambitious longing can be considered as unwise on the part of those who are willing to undertake all work and suffer all want in the struggle.

The extremest poverty has been no obstacle in the way of men devoted to the duty of self-culture. Professor Alexander Murray, the linguist, learned to write by scribbling his letters on an old wool-card with the end of a burnt heather-stem. The only book which his father, who was a poor shepherd, possessed, was a penny Shorter Catechism; but that, being thought too valuable for common use, was carefully preserved in a cupboard for the Sunday catechizings. Professor Moor, when a young man, being too poor to purchase Newton's "Principia," borrowed the book, and copied the whole of it with his own hand. Many poor students, while laboring daily for their living, have only been able to snatch an atom of knowledge here and there at intervals, as birds do their food in winter time when the fields are covered with snow. They have struggled on, and faith and hope have come to them. A well known author and publisher, William Chambers, of Edinburgh, speaking before an assemblage of young men in that city, thus briefly described to them his humble beginnings for their encouragement: "I stand before you," he said, "a self-educated man. My education is that which is supplied at the humble parish-schools of Scotland; and it was only when I went to Edinburgh, a poor boy, that I devoted my evenings, after the labors of the day, to the cultivation of that intellect which the Almighty has given me. From seven or eight in the morning till nine or ten at night was I at my business as a bookseller's apprentice, and it was only during hours after these, stolen from sleep, that I could devote myself to study. I did not read novels; my attention was devoted to physical science and other useful matters. I also taught myself French. I look back to those times with great pleasure, and am almost sorry I have not to go through the same experience again; for I reaped more pleasure when I had not a sixpence in my pocket, studying in a garret in Edinburgh, than I now find when sitting amid all the elegancies and comforts of a parlor."

William Cobbett learned English grammar when he was a private soldier on the pay of sixpence a day.

These are men who have selected an aim in life and have attained it through sticking to it. Concentration of purpose carried them through. The "Admirable Crichtons" are scarce geniuses, and no young man need be ashamed, in these days of special accomplishment, of having decided to follow a single pursuit in life—to become a man of one idea provided it is a good one. Almost all the great men in war, literature, science, diplomacy, business, the professions, have been men of "one idea," not because they were incapable of harboring more than one, but because, having selected some one object as worthy of attainment, they gave themselves up to it solely. If was often long of coming, but it came at last. Adam Smith gave ten years to his "Wealth of Nations;" Edward Gibbon, twenty to the "Decline and Fall of the Roman Empire;" Bishop Butler, twenty to his famous "Analogy;" Kant, fifty years to his metaphysical researches; Dr. Johnson, seven years to his Dictionary. These men sought one prize and gained it. As many years have been spent by thousands of men of equal ability, who sought each a number of prizes and gained none.

A Sound Body

Is another of the essentials of success in life which are largely attainable by those who lack their possession. Mental as well as physical accomplishment depends largely upon the condition of the worker's digestion, and the thorough aeration of his blood. This can only be obtained with healthy exercise, which can only be taken by those whose muscles and nerves and wind are in good condition. "Walk twelve miles before speaking and you'll never break down," says Sidney Smith to an English Parliamentary debater. A strong intellect cannot well work with a weak body as its case. Energy without talent will accomplish more than talent without energy. The sharp edge of the woodman's axe avails nothing until the sinewy arm throws it, stroke upon stroke, against the monarchs of the forest. Take the great men of the century, and it will be seen that they combined intellectual force with physical vigor. In England, Brougham, Lyndhurst, Peel, Bright, Gladstone, Palmerston; in America, Webster, Clay, Calhoun, Grant, Sherman, Sheridan, Lincoln-all these were men capable of strong muscular exertion and of standing a prolonged physical as well as mental strain. It is told of Lord Brougham that he once worked six days on a stretch without sleep, slept from Saturday night to Monday morning, and began work again thoroughly refreshed. These men are the conservers as well as the possessors of physical force, and the young man who seeks to retain the "sound mind in a sound body" will remember that it is not so much in the cultivation of additional body strength as in the economy of what he already possesses that the art of physical culture is best applied. The idea used to be that muscularity and rowdyism were natural associates, but people found out that it is possible for a young man to be a good rower, or boxer even, and still be a worthy Christian and admirable member of society, and even that it was difficult for him to be these unless with the employment of manly

exercises he brought his physical condition up to the healthy standard. This is merely a recurrence to the old belief of the Greeks, who reverenced the muscular body as one of the noble parts of man, and made gymnastics and calisthenics a regular school exercise. Without good health and a sound body, moderate success in life may be painfully possible; with it a place in the front rank may be attained with far greater ease than otherwise.

Self-Reliance.

Among all the mental qualifications which help on to success in life, there is none which is of more importance than self-reliance. If you want a thing well done, do it yourself, says the old saw, and hence comes it that those who rely most upon themselves for the accomplishment of any aim are the ones who do the best work. "Heaven helps those who help themelves" is a well-tried maxim, embodying in small compass the results of vast human experience. The spirit of self-help is the root of all genuine growth in the individual; and, exhibited in the lives of many, it constitutes the true source of national vigor and strength. Help from without is often enfeebling in its effects, but help from within invariably invigorates. Whatever is done for men or classes, to a certain extent takes away the stimulus and necessity of doing for themselves; and where men are subjected to over-guidance and over-government, the inevitable tendency is to render them comparatively helpless.

It is energetic individualism which produces the most powerful effect upon the life and actions of others, and really constitutes the best practical education. The determination to be one's own helper is the secret of this individual development and strength. No greater misfortune could befall an ambitious and able young man than a legacy. A story is told of a critic who, after reviewing the promising work of a young artist, praised it, but added: "It is a pity that he can never make a great painter." "And why not?" rejoined his companion. "Because he has ten thousand pounds a year," was the sententious response. When John C. Calhoun was ridiculed by his fellow-students at Yale for his intense application to study, he raised a louder laugh against himself by replying, "I am forced to make the most of my time that I may acquit myself creditably when in Congress," and then, when the laugh was over, adding, "I assure you, if I were not satisfied of my ability to reach Congress in three years, I would at once leave college." Here was self-reliance and self-help. Calhoun knew the difficulties that lay between him and the goal of his ambition, and, while the other students were laughing at him, he was helping himself to overcome them. "The man who clares to think for himself and act independently, does a service to his race," says one of the brightest modern thinkers, and daily experience shows that it is energetic individualism which produces the most powerful effects upon the life and action of others, and really constitutes the best practical education. Schools, academies and colleges give out the merest beginnings of culture in comparison with it. Far more influential is the life-education daily given in

our homes, in the streets, behind counters, in workshops, at the loom and the plough, in counting-houses and manufactories, and in the busy haunts of men. This is that finishing instruction as members of society which Schiller designated "the education of the human race," consisting in action, conduct, self-culture, self-control-all that tends to discipline a man truly, and fit him for the proper performance of the duties and business of life—a kind of education not to be learned from books, or acquired by any amount of mere With his usual weight of words, Bacon literary training. observes that "studies teach not their own use; but that is a wisdom without them and above them won by observation "a remark that holds true of actual life as well as of the cultivation of the intellect itself. For all experience serves to illustrate and enforce the lesson that a man perfects himself by work more than by reading—that it is life rather than literature, action rather than study, and character rather than biography, which tend perpetually to renovate mankind.

Attention to Detail

Is a matter which constitutes much more than half of the battle in many spheres of usefulness, and, the more intellectual the task, the greater the necessity, very frequently, of careful and constant devotion to the little things which help to form it. Sedulous attention and painstaking industry always mark the true worker. The greatest men are not those who "despise the day of small things," but those who improve them the most carefully. Michael Angelo was one day explaining to a visitor at his studio what he had been doing at a statue since his previous visit. "I have retouched this partpolished that-softened this feature-brought out that muscle-given some expression to this lip, and more energy to that limb." "But these are trifles," remarked the visitor. "It may be so," replied the sculptor, "but recollect that trifles make perfection, and perfection is no trifle." So it was said of Nicolas Poussin, the painter, that the rule of his conduct was, that "whatever was worth doing at all was worth doing well;" and when asked, late in life, by his friend Vigneul de Marville, by what means he had gained so high a reputation among the painters of Italy, Poussin emphatically answered, "Because I have neglected nothing." On the first publication of Wellington's dispatches, one of his friends said to him, on reading the records of his Indian campaigns: "It seems to me, Duke, that your chief business in India was to procure rice and bullocks." "And so it was," replied Wellington, "for, if I had rice and bullocks, I had men; and if I had men, I knew I could beat the enemy." All men who have accomplished success in life have been conspicuous for minute attention to details as well as for general scope and vigor. The great Napoleon was a wonderful example of this. His correspondence shows him arranging for supplies of saddles, directing where cattle could be purchased, advising the procurement of shoes for the infantry, and making suggestions as to various minor details, and complaining because of discovered carelessness in the reports upon matters of detail supplied by others. Lord Brougham, alluding to this quality,

said: "The captain who conveyed Napoleon to Elba expressed to me his astonishment at his precise and, as it were, familiar knowledge of all the minute details connected with the ship."

In the face of these examples, no one should come to the conclusion that details are beneath one's notice, or that one is less brilliant in the great things of life because he pays attention to the little things. Of General Thomas it is said that he was careful in all the details of a battle, but, once in the fight, was as "furious and impetuous as Jackson." Attention to details makes a business man, or any other kind of man, "sure that he is right," and then, of course, it only remains for him to "go ahead."

Perseverance

Is the ever ready and kindly ally of those who are seeking success and feel that they do not possess the ability to attain it so quickly as others. The greatest results in life are usually attained by simple means and the exercise of ordinary qualities. The road of human welfare lies along the old highway of steadfast well-doing; and they who are the most persistent, and work in the truest spirit, will usually be the most successful. Buffon's definition of genius, "It is patience," may be exaggerated, but it hardly seems so when the accomplishments of patience are considered. Fortune has often been blamed for her blindness; but Fortune is not so blind as men are. Those who look into practical life will find that Fortune is usually on the side of the industrious, as the winds and waves are on the side of the best navigators. In the pursuit of even the highest branches of human inquiry, the commoner qualities are found the most useful-such as common sense, attention, application and perseverance. Genius may not be necessary, though even genius of the highest sort does not disdain the use of these ordinary qualities. The very greatest men have been among the least believers in the power of genius, and as worldly-wise and persevering as successful men of the commoner sort.

The extraordinary results effected by dint of sheer industry and perseverance have led many distinguished men to doubt whether the gift of genius be so exceptional an endowment as it is usually supposed to be. Thus Voltaire held that it is only a very slight line of separation that divides the man of genius from the man of ordinary mould. Beccaria was even of opinion that all men might be poets and orators, and Reynolds that they might be painters and sculptors. If this were really so, that stolid Englishman might not have been so very far wrong, after all, who, on Canova's death, inquired of his brother whether it was "his intention to carry on the business!" Locke, Helvetius and Diderot believed that all men have an equal aptitude for genius, and that what some are able to effect, under the laws which regulate the operations of the intellect, must also be within the reach of others who, under like circumstances, apply themselves to like pursuits. But, while admitting to the fullest extent the wonderful achievements of labor, and recognizing the fact that men of the most distinguished genius have invariably been found the most indefatigable workers, it must nevertheless be sufficiently obvious that, without the original endowment of heart and brain, no amount of labor, however well applied, could have produced a Shakspere, a Newton, a Beethoven or a Michael Angelo.

The world's history is full of the triumphs of those who have had to fight from beginning to end for recognition. Carey, the great missionary, began life as a shoemaker; the chemist Vanquelin was the son of a peasant; Richard Cobden was the son of a small farmer; Cook, the navigator, and Burns, the poet, were day-laborers; Ben Jonson was a bricklayer; David Livingstone, the traveller-missionary, was a weaver; Sturgeon, the electrician, and Bloomfield, the poet, were shoemakers; Andrew Johnson, President of the United States, was a tailor. At the plow, on the bench, or at the loom, these men dreamed of their future greatness, and persevered in their endeavors to accomplish it, and did so at last. Literature has provided several examples of singlehanded triumph over difficulties by the persevering. Lord Brougham, working for over sixty years at law, literature, politics and science, and achieving distinction in all, was advised by Sir Sidney Smith to confine himself to only the transaction of so much business as three strong men could get through.

Another hard-working man of the same class was Lord Lytton. Few writers did more, or achieved higher distinction in various walks-as a novelist, poet, dramatist, historian, essayist, orator and politician. He worked his way step by step, disdainful of ease, and animated throughout by the ardent desire to excel. On the score of mere industry there are few living English writers who have written so much, and none that have produced so much of high quality. Like Byron, his first effort was poetical ("Weeds and Wild Flowers") and a failure. His second was a novel ("Falkland"), and it proved a failure too. A man of weaker nerve would have dropped authorship; but Bulwer had pluck and perseverance; and he worked on, determined to succeed. He was incessantly industrious, read extensively, and from failure went courageously onward to success. "Pelham" followed "Falkland" within a year, and the remainder of Lord Lytton's life was a succession of triumphs.

The late Premier of England, Lord Beaconsfield, affords a similar instance of the power of industry and application in working out an eminent public career. His first achievements were, like Bulwer's, in literature; and he reached success only through a succession of failures. His "Wondrous Tale of Alroy" and "Revolutionary Epic" were laughed at, and regarded as indications of literary lunacy. But he worked on in other directions, and his "Coningsby," "Sybil" and "Tancred" proved the sterling stuff of which he was made. As an orator, too, his first appearance in the House of Commons was a failure. It was spoken of as "more screaming than an Adelphi farce." Though composed in a grand and ambitious strain, every sentence was hailed with "loud laughter." "Hamlet" played as a comedy were nothing to it. But he concluded with a sentence

which embodied a prophecy. Writhing under the laughter with which his studied eloquence had been received, he exclaimed, "I have begun several times many things, and have succeeded in them at last. I will sit down now, but the time will come when you will hear me." The time did come; and how Disraeli succeeded in at length commanding the attention of the first assembly of gentlemen in the world affords a striking illustration of what energy and determination will do; for Disraeli earned his position by dint of patient industry. He did not, as many young men do, having once failed, retire dejected, to mope and whine in a corner, but diligently set himself to work. He carefully unlearned his faults, studied the character of his audience, practiced sedulously the art of speech, and industriously filled his mind with the elements of parliamentary knowledge. He worked patiently for success; and it came, but slowly; then the House laughed with him instead of at him. The recollection of his early failure was effaced, and by general consent he was at length admitted to be one of the most finished and effective of parliamentary speakers, and finally became the favored Prime Minister of Queen Victoria.

Decision of Character

Is one of the greatest of God's gifts to man, and, as every man has the germ of this quality, it can be cultivated to great advantage. It outstrips even talent and genius in the race for success in life. Thousands and thousands of brilliant men have failed for the want of courage, faith and decision, perishing in the sight of less gifted but more adventurous competitors. As Sidney Smith says, "We must not stand shivering on the brink and thinking of the cold and the danger, but jump in and scramble through as well as we can."

The old poem says:

"He either fears his fate too much, Or his deserts are small, That dares not put it to the touch, To gain or lose it all."

Decision of character enables one to do the right thing at the right time. Every one knows that

> "There is a tide in the affairs of men Which, taken at the flood, leads on to fortune;"

but not every one has the ability to tell the time of flood, and many, after telling it, have lost its advantages through lack of nerve to embark upon it before the ebb came, and the opportunity was lost. In the smoke and din of battle, it was the genius of Napoleon which enabled him to see where one or two bold and rapid movements would secure the advantage; but it was his decision of character which enabled him to profit to the full by the discovery. To be decisive on important occasions, one must keep cool. The Duke of Wellington's calmness never forsook him, even in the most trying emergencies. At sea, one terrible night, the captain of the vessel rushed to the Duke, who was preparing for bed, and announced that the vessel would soon sink. "Then I shall not take off my boots," the imperturbable hero of Water-

loo responded as he paused in his preparations for sleep. There is need for this coolness of manner and decision of action in all lines of business. The surgeon, brought face to face with a sudden complication in the case beneath his knife; the lawyer, surprised by the springing of the trap which his wily opponent had prepared for him; the merchant, apprised of a turn in his enterprises that threatens immediate disaster—all are called upon to exercise this quality, and in thousands of cases the dullest man in a company has obtained the prize simply because he grasped it while others were revolving in their minds what they had better do in order to secure it.

Other Causes of Success and Failure.

Attention, application, accuracy, method, punctuality and dispatch are the principal qualities required for the efficient conduct of business of any sort. These, at first sight, may appear to be small matters; and yet they are of essential importance to human happiness, well-being and usefulness. They are little things, it is true; but human life is made up of comparative trifles. It is the repetition of little acts which constitutes not only the sum of human character, but which determines the character of nations; and where men or nations have broken down, it will almost invariably be found that neglect of little things was the rock on which they split. Every human being has duties to be performed, and, therefore, has need of cultivating the capacity for doing themwhether the sphere of action be the management of a household, the conduct of a trade or profession, or the government of a nation.

It is the result of every-day experience that steady attention to matters of detail lies at the root of human progress; and that diligence, above all, is the mother of good luck. Accuracy is also of much importance, and an invariable mark of good training in a man—accuracy in observation, accuracy in speech, accuracy in the transaction of affairs. What is done in business must be well done; for it is better to accomplish perfectly a small amount of work than to half-do ten times as much. A wise man used to say, "Stay a little, that we may make an end the sooner."

Too little attention, however, is paid to this highly important quality of accuracy. As a man eminent in practical science lately observed to us, "It is astonishing how few people I have met with in the course of my experience who can define a fact accurately." Yet in business affairs, it is the manner in which even small matters are transacted that often decides men for or against you. With virtue, capacity and good conduct in other respects, the person who is habitually inaccurate cannot be trusted; his work has to be gone over again; and he thus causes an infinity of annoyance, vexation and trouble.

Method is essential, and enables a larger amount of work to be accomplished satisfactorily. "Method," said the Rev. Richard Cecil, "is like packing things in a box; a good packer will get in half as much again as a bad one." Cecil's dispatch of business was extraordinary, his maxim being, "The shortest way to do many things is to do only one thing

at once," and he never left a thing undone with a view of recurring to it at a period of more leisure.

A French Minister, who was alike remarkable for his dispatch of business and his constant attendance at places of amusement, being asked how he contrived to combine both objects, replied, "Simply by never postponing till to-morrow what should be done to-day." Lord Brougham has said that a certain English statesman reversed the process, and that his maxim was never to transact to-day what could be postponed till to-morrow. Unhappily, such is the practice of many besides that Minister, already almost forgotten; the practice is that of the indolent and the unsuccessful. Such men, too, are apt to rely upon agents, who are not always to be relied upon. Important affairs must be attended to in person. "If you want your business done," says the proverb, "go and do it; it you don't want it done, send some one else."

An indolent country gentleman had a freehold estate producing about five hundred a year. Becoming involved in debt, he sold half the estate, and let the remainder to an industrious farmer for twenty years. About the end of the term the farmer called to pay his rent, and asked the owner whether he would sell the farm. "Will you buy it?" asked the owner surprised. "Yes, if we can agree about the price." "That is exceedingly strange," observed the gentleman; "pray, tell me how it happens that, while I could not live upon twice as much land for which I paid no rent, you are regularly paying me two hundred a year for your farm, and are able, in a few years, to purchase it?" "The reason is plain," was the reply; "you sat still and said Go; I got up and said Come: you lay in your bed and enjoyed your estate; I rose in the morning and minded my business."

Men of business are accustomed to quote the maxim that time is money; but it is more: the proper improvement of it is self-culture, self-improvement and growth of character. An hour wasted daily on trifles or in indolence would, if devoted to self-improvement, make an ignorant man wise in a few years, and, employed in good works, would make his life fruitful and death a harvest of worthy deeds. Fifteen minutes a day devoted to self-improvement will be felt at the end of the year. Good thoughts and carefully gathered experience take up no room, and may be carried about as our companions everywhere, without cost or encumbrance. An economical use of time is the true mode of securing leisure; it enables us to get through business and carry it forward, instead of being driven by it. On the other hand, the miscalculation of time involves us in perpetual hurry, confusion and difficulties; and life becomes a mere shuffle of expedients, usually followed by disaster. Nelson once said, "I owe all my success in life to having been always a quarter of an hour before my time."

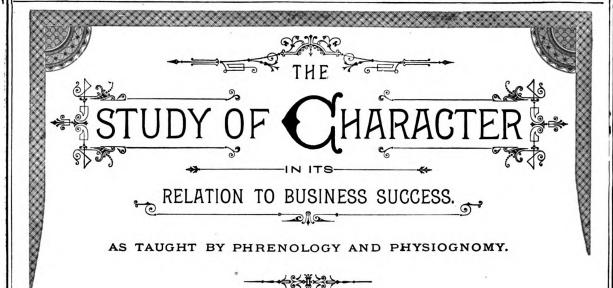
Some take no thought of the value of money until they have come to an end of it, and many do the same with their time. The hours are allowed to flow by unemployed, and then, when life is fast waning, they bethink themselves of the duty of making a wiser use of it. But the habit of listlessness and idleness may already have become confirmed, and they are unable to break the bonds with which they have permitted themselves to become bound. Lost wealth may be replaced by industry, lost knowledge by study, lost health by temperance or medicine, but lost time is gone forever.

A proper consideration of the value of time will also inspire habits of punctuality. "Punctuality," said Louis XIV., "is the politeness of kings." It is also the duty of gentlemen, and the necessity of men of business. Nothing begets confidence in a man sooner than the practice of this virtue, and nothing shakes confidence sooner than the want of it. He who holds to his appointment and does not keep you waiting for him, shows that he has regard for your time as well as for his own. Thus, punctuality is one of the modes by which we testify our personal respect for those whom we are called upon to meet in the business of life. It is also conscientiousness, in a measure; for an appointment is a contract, express or implied, and he who does not keep it breaks faith, as well as dishonestly uses other people's time, and thus inevitably loses character. We naturally come to the conclusion that the person who is careless about time is careless about business, and that he is not the one to be trusted with the transaction of matters of importance. When Washington's secretary excused himself for the lateness of his attendance, and laid the blame upon his watch, his master quietly said, "Then you must get another watch or I another secretary."

Napoleon was a thorough man of business. Though he had an immense love for details, he had also a vivid power of imagination, which enabled him to look along extended lines of action, and deal with those details on a large scale with judgment and rapidity. He possessed such knowledge of character as enabled him to select, almost unerringly, the best agents for the execution of his designs. But he trusted as little as possible to agents in matters of great moment, on which important results depended.

Like Napoleon, the Duke of Wellington was a first-rate man of business; and it is not perhaps saying too much to aver that it was in no small degree because of his possession of a business faculty amounting to genius that the Duke never lost a battle. His magnificent business qualities were everywhere felt; and there can be no doubt that, by the care with which he provided for every contingency, and the personal attention which he gave to every detail, he laid the foundations of his great success.





HE science of Phrenology is based on the theory that the faculties of the mind are shown on the surface of the human skull. It points out those connections and rela-

tions which exist between the conditions and developments of the *brain* and the manifestations of the *mind*, discovering each from an observation of the other.

THE ORIGIN

PHRENOLOGY.

Franz Joseph Gall, born at Tiefenbrunn, in Baden, March 9, 1758,

was the first to mark the separate functions of the human mind and trace the location of the respective organs in the human brain. After studying the natural sciences at Strasburg, he graduated as a physician at Vienna in 1785, practicing there for many years. As a boy he had observed that among his schoolmates good memories were invariably indicated by large eyes, and from this he conceived the idea that individual characteristics could be determined by external signs. The result of long-continued observation in schools, prisons, lunatic asylums and other places was the conviction that the brain, and not the heart, was the seat of all mental manifestations. After

twenty years of study he decided the location of some twenty distinct mental organs and satisfied himself that their degree of activity could be determined from the shape of the skull. In 1791 he published "Medical and Philosophical Researches on Nature and Art," and in 1796 he began lecturing in Vienna on his novel theories, creating a marked sensation. In 1802 his lectures were prohibited by the Austrian government as dangerous to religion, but in company with Johann Gaspar Spurzheim, he made considerable headway in Central and Northern Europe. His principal work is

entitled, "The Anatomy and Physiology of the Nervous System and of the Brain."



MEASUREMENT OF THE HEAD.

Other things being equal, the size of the head, and of the brain, the different portions of which are called organs, and classified according to their par-

ticular functions, constitutes the principal phrenological condition by which character is determined. Most great men have had great heads. Webster's head measured a little more than 24 inches, and Clay's considerably over 23. Napoleon's reached nearly 24. Hamilton's hat passed over the ears of a man whose head measured 23½. Burke's head was very large; so was Jefferson's, while Franklin's hat passed over the ears of a 24-inch head. Small and average heads often astonish us by their brilliancy and learning, and perhaps eloquence, yet fail in that commanding greatness which impresses and sways.

The general rule laid down for head-measurement of adults is as follows: The smallest size compatible with fair talents, 20½; moderate, 20½ to 21½; average, 21½ to 22; full, 22 to 22½; large, 22½ to 23½; very large, above 23½. Female heads ½ to ¾ below these averages; but as some heads are round, others long, some low and others high, these measurements cannot be depended upon to carry any

In judging of the manifestations of the mind, the activity of the brain is a consideration quite as important as its size. While size gives power or momentum of intellect and feeling, activity imparts quickness, intensity, willingness and even a restless desire to act, which go far to produce efficiency of mind, with accompanying effort and action. Under the heads of size, given below, the effects of the different degrees of activity are presented.

accurate idea of the actual quantity of brain,

Very Large. One having a very large head, with activity average or full, on great occasions, or when his powers are thoroughly roused, will be truly great, but ordinarily will seldom manifest any remarkable amount of mind or feeling, and perhaps pass through life with the credit of being a person of good natural abilities and judgment, yet nothing more. With activity great, strength, and the intellectual organs the same, will be a natural genius, endowed with very superior

powers of mind and vigor of intellect; and even

though deprived of the advantages of education, his natural talents will surmount all obstacles. With activity very great, and the organs of practical intellect and of the propelling powers large or very large, will possess the first order of natural abilities, manifest a clearness and force of intellect that will astonish the world, and a power of feeling that will carry all before him, and, with proper cultivation, enable him to become a bright star in the firmament of intellectual greatness; his mental enjoyments will be most exquisite, and his sufferings equally excruciating.

Large. One having a large-sized brain, with activity average, will possess considerable energy of intellect and feeling, yet seldom manifest it unless it is brought out by some powerful stimulus. With activity full, will be endowed with an uncommon amount of the mental power, and be capable of doing a great deal, yet require considerable to awaken him to that vigorous effort of mind of which he is capable. If the perceptive faculties are strong or very strong, and his natural powers put in vigorous requisition, he

will manifest a vigor and energy of intellect and feeling quite above mediocrity. With activity great or very great, will exercise a commanding influence over those minds with which he-comes in contact; when he enjoys, will enjoy intensely, and when he suffers, suffer equally so; be susceptible of strong excitement, and with the organs of the propelling powers and of practical intellect large or very large, will possess all the mental capabilities for conducting a large business, for rising to eminence, if not to pre-eminence, and discover great force of character and power of intellect and feeling. With activity moderate, when powerfully excited, will evince considerable energy of intellect and feeling, yet be too indolent and too sluggish to do much; lack clearness and force of idea and intensity of feeling; unless literally driven to it, will not be likely to be much or do much, and yet actually possess more vigor of mind and energy of feeling than he will manifest. With activity small, will border on idiocy.

Full. One having a full-sized brain, with activity great or very great,
with the organs of practical intellect and of the
propelling powers large or very large, although

lect, nor a deep, strong mind, will be very clever; have considerable talent, and that so distributed that it will show to be more than it really is;

he will not possess greatness of intel-

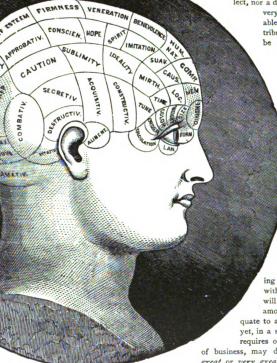
is capable of being a good scholar, doing a fine business, and with advantages and application, of distinguishing himself somewhat, yet he is inadequate to a great undertaking, can not sway an extensive influence, nor be really great. With activity full or average, will do only tolerably well, and manifest only a common share of talents. With activity moderate or small, will neither be nor do much worthy of notice.

Average. One having an average-sized brain, with activity only average, will discover only an ordinary amount of intellect; be inadequate to an important undertaking, yet, in a small sphere, or one that requires only a mechanical routine of business, may do well. With activity great or very great, and the organs of the propelling powers and of practical intellect

large or very large, is capable of doing a fair business and may pass for a man of some talent. With *moderate* or *small* activity, will hardly have

Moderate. One with a head of only moderate size, combined with great or very great activity, and the organs of the propelling powers and of practical intellect, large, will possess a tolerable share of intellect. With others to plan for and direct him, will execute to advantage, yet be unable to do much alone. Will have a very active mind, and be quick of perception, yet, after all, lack momentum both of mind and character. With activity only average or fair, will have but a moderate amount of intellect. With activity moderate or small, will be an idiot.

Small or Very Small. One with a very small head, no matter what may be the activity of his mind, will be incapable of intellectual effort, of comprehending even easy subjects, or of experiencing much pain or pleasure; in short, will be a natural fool.



THE TWO PATHS.

WHAT WILL THE



BOY BECOME?



IDLENESS.



DISSIBATION



WRECK.

HE illustrations on this page are intended to show the effects of training and circumstances and different modes of life upon the human countenance. Although the inheritance at birth of a sound constitution, well-balanced mental organization and favorable temperament are most important factors in shaping character, yet the possessor of all these natural endowments may so pursue the path of life that the close will find him a miserable wretch, to go from beggary and vice to an unhonored grave. On the contrary, education and moral training can atone for the lack of natural advantages, and make of a less favored child a useful and honored citizen. The human face has in it something expressive of that which enters into and constitutes the character of a man, and on it are written, by an unseen hand, but in indelible lines which all may read, the records of life's history.

Who can divine, on looking at the head and face of the child represented above, what that young intelligence will become in the future of his life? Look at the eye, nose and mouth of the boy at school, and you will not fail to perceive, from the very contour of the countenance, that his destiny depends on the influences by which he may be surrounded.

In the one instance you see him choosing his profession and contemplating a settlement in life, wedding himself to a virtuous, loving and devoted woman, and in course of time becoming surrounded by a loving family; in the other you see the man emerging from the scenes of brutal intoxication to plunge into deeper, darker vices, until life becomes a burden, and he goes down to the grave unlamented and unwept. How different this from the career of the man whose happiest days are spent in the bosom of his loving family, and who grows old amid the most genial influences, honored, revered, beloved; who goes down to his last resting-place amid the prayers and tears of those he loved, cheered by the hope of a happy reunion in a world where life is perfect and joy complete.



INDUSTRY AND STUDY



HONORABLE SUCCESS.



HONORED AGE



Physiognomy, or Face-Reading.



HRENOLOGISTS do not claim that the system in which they believe is perfect, but that they have demonstrated the following facts beyond question:

That the brain is the organ through which the mind manifests itself, and that each faculty of the mind has a separate and distinct organ in the brain; that the organs relating to each other are grouped together in the brain; that, other things being equal, the power of the brain may be estimated by its size; that the manifestations of

brain are affected by the bodily conditions; that every faculty of the mind is devised for a good purpose, and that every faculty may be enlarged and cultivated by exercise, or may be lessened by neglect. While differences of opinion may exist as to the right which Phrenology has to be considered one of the exact sciences, all mankind tacitly acknowledges the fact that the face is a reliable reflex of

the mind and character. Upon meeting a stranger we instinctively scan his face to learn whether we will like or dislike him. Our judgment is instantaneous, the impression being favorable or unfavorable. To what instinct or fact do we ascribe this? We of course judge by the expression of the face—in other words, by the *physiognomy*. This unfailing

index tells whether he is intellectual or dull, kind or brutish, strong or weak of mind.

Beyond and outside of all physical characteristics, it is claimed that the mental peculiarities of the individual can be seen and known in the tone of the voice, the rapidity of speech, the sprightliness of motion, the grasp of the hand, etc.

The five faces given above, in Figure 1, illustrate the various grades of intelligence.

The face at the left is easily recognized as one of intellectual vigor.

The one to the right, with its thick lips and retreating chin and forehead, heave all the evidence of intellectual feeble.

and forehead, bears all the evidence of intellectual feebleness. The intervening faces represent the gradations from a high to a low state of intelligence, and our opinion as to the relative intellectuality of these five faces is instan-

taneously formed by the shape of the head, the nose, the chin and the lips.

In the next illustrations are contrasted a pair of faces whose features and expression exemplify boldly the theory of physiognomy. Figure 2, with its straight, darting, frank eye, its intellectual Grecian nose, forehead which bears the stamp of strong perceptive faculty, firm closed lips and resolute chin, at once impresses the beholder with the presence of a person of strong and clearly defined characteristics, which

have been improved by cultivation. Figure 3, on the other hand, bears all the evidences of vulgarity and ignorance, untempered by culture's softening influences. The smoothly rounded and retreating brow, the small and sunken eye, the coarse, misshapen nose, thick and sensuous lips, and weak, receding chin, indicate at a glance a nature which is strong only in vulgar and vicious pro-

pensities, and lacking almost entirely the intellectual and moral power to restrain them.

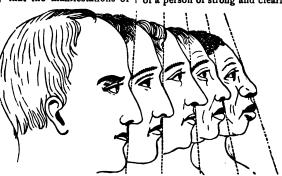


FIG. I. THE GRADES OF INTELLIGENCE.

→ FTHE TEMPERAMENTS. FIGH

One of the arguments frequently used against the claim that

mental ability can be determined by the size of the brain is the fact that men with small heads often accomplish more than those who have heads and bodies of much greater size.

The reply of phrenologists to this is that there are four temperaments, viz.: the Lymphatic, the Sanguine, the Bilious and the Nervous; and that every person possesses more or less of these in his physical constitution.

The Lymphatic.

The LYMPHATIC temperament is 710, 2. indicated by the predominance of stomach, which makes roundness of form, softness of flesh, a weak pulse and a languid condition of the system. With such the hair is light, complexion pale, eyes blue and dull.



The Sanguine.

The SANGUINE temperament largely depends upon a preponderance of the arterial system. He who possesses it will

have light hair and blue eyes, will be fairly rounded in muscle, will be ardent, active and enthusiastic.

The Bilious.

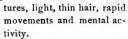
With the BILIOUS temperament the liver is taken as the basis. This is indicated by black eyes and hair, a dark and tawny skin, solid and spare flesh, angular form, great energy and activity, and, if coupled with superior mental development, large power.

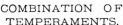
The Nervous.

The Nervous temperament rests upon a preponderance of the nervous system. Those possessing it are known by their delicacy of health, thin and angular fea-



aments are generally found blended more or less with each other, and out of the combination phrenologists designate another class of temperaments called the Motive, the Vital and the Mental.





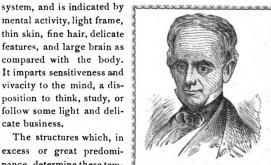
features, and large brain as TEMPERAMENTS. compared with the body. It imparts sensitiveness and Fortunately these tempervivacity to the mind, a disposition to think, study, or follow some light and delicate business.

digestive and assimilating organs, abundance of blood and animal spirits. The form is plump and limbs rounded and tapering, the complexion light or florid, with an inclination

to take on flesh as age advances. This temperament is a combination of the Sanguine and the Lymphatic, as set forth by Combe and other writers; but as the digestive and assimilating organs, which constitute the Lymphatic temperament, together with the respiratory and circulatory systems, which constitute the Sanguine temperament, are really vital organs, their combination into one, under the name of Vital temperament, is both convenient and philosophical.



The MENTAL temperament depends on the development of the brain and nervous



The structures which, in excess or great predominance, determine these temperaments, exist in each

> individual. In one person one temperament may predominate; in the next, another. They can be modified by proper training. When combined, they give harmony of character and excellent health.

The Brain.

There are still other conditions upon which the phrenologist rests his case, without which he admits the mental power of the individual cannot be determined. It is claimed, for instance, that a loose and flabby flesh reveals a soft and spongy brain, and that a close-knit frame and firm flesh show intellectual power. Then, again, the state of the health must be taken into consideration. In perfect health the brain is strong.



A PERFECT UNION AND BALANCE OF THE TEMPERAMENTS.

The Motive.

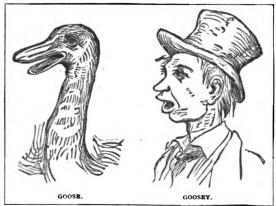
The MOTIVE temperament, corresponding to the Bilious, has a strong, bony system, an abundance of muscle, dark, wiry hair, dark eyes, rough, prominent features, dark complexion and great executive force. The Motive temperament, in its influence on mental manifestation, is favorable to dignity, sternness, determination, power of will and desire to govern and control others. It gives slowness of passion, desire for heavy labor or large business, and a liability to miasmatic diseases.

The Vital.

The VITAL temperament is evinced by large lungs, a powerful circulatory system, and large



FACIAL RESEMBLANCES BETWEEN MEN AND ANIMALS.

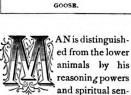


The lion is noted for his strength and consciousness of power He is ferocious and bloodthirsty, but also capable of generosity and magnanimity. Disdaining cunning devices, he leaps upon his prey with terrible and resistless impetuosity. These characteristics are apparent in the face of his human counterpart, in which, though gentleness and amiability may be lacking, there are certainly depicted nobility and consciousness of power. Such a man, though he may crush the strong, will spare the weak and defenseless, and, though he may take counsel of his sagacity, will never descend to low cunning.

When we call one "a great bear," we hardly mean to pay him a compliment. It may be inferred that he is somewhat rough, coarse and uncouth—hardly a gentleman—but he may have his good qualities and be a useful member of society. One may be bearish and yet not unbearable. The ancients seem to have had considerable respect for the bear, at least in

the feminine gender, for we have from the Latin the not uncommon name of *Ursula*, meaning a she-bear.

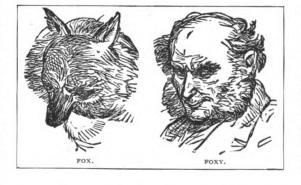
We have all seen people that may with great propriety be called "hoggish," though a resemblance as strong as that depicted in the illustration is but seldom met with. The characteristics of the hog are selfishness, filthiness, acquisitiveness, and, in a low sense, inquisitiveness. The hoggish man is greedy, makes a god of

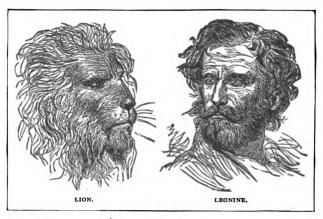


timents. The more these are developed and refined, the greater his superiority over the rest of creation. But there are many things which man has in common with the inferior creatures. Both have the senses of sight, hearing, taste, smell and touch; in both has been implanted love of life and the in-

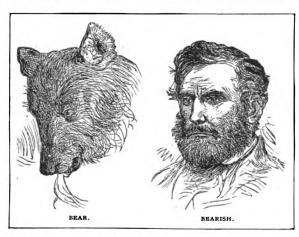
stinct of self-preservation. Affection and anger, caution, secretiveness, acquisitiveness, combativeness and destructiveness, in great or small degree, are manifested in animals as in men. The fox is known for his cunning. It does not surprise us, therefore, when we see in the face of a wily, crafty man, a strong resemblance to the wiliest of animals. In the illustrations the artist has depicted some striking resemblances, showing how those qualities and instincts which man has in common with the lower animals are often plainly stamped on the human face.

"What a goose!" is an expression we often hear, and no one will doubt that the young man depicted in the first of the comparative illustrations is just the kind that will be easily "plucked" if he go "gabbling" about.





his belly, and, however well supplied his table may be, he has only enough for himself. Selfishness, however, is natural and inherited by most men, while kindness and generosity are more



often the result of culture. Were children not *taught* to be generous, to divide, there would be far more selfishness in the world than there is.

We read in one of Shakspere's comedies of a certain character who loudly lamented that no reporter was present to write him down an ass.* In our day the reporter is generally at hand, and men who "make donkeys of themselves" are often "written down" in- that way without

even being consulted in the matter. There is little harm done, of course, for if left alone they are sure to make the record themselves. Mulishness or obstinacy has ruined many a man, and where there is little culture and much ignorance, we may look for conceit, prejudice and stupidity.

The dog will take on something of the spirit of his master, will even come to slightly resemble him by constant association. Hogarth was always painted with his dog, and it has been said that ultimately he came to resemble the animal, although it is more than probable that the latter, by remaining almost constantly in the presence of his master and endeavoring in a doggish way to understand his thoughts, words and expressions, had really come, in a limited manner, to resemble the great humorous artist. We cannot believe that the man was lost in the dog, but it is not entirely unreasonable to suppose that the dog had taken on something of the

The ancient physiognomists laid great stress upon the real or

*"O, that he were here to write me down an ass!"—Much Ado About Nothing. fancied resemblances existing between men and animals, but their speculations are of no real value. Modern writings on the subject are also mainly fanciful, and calculated to amuse rather

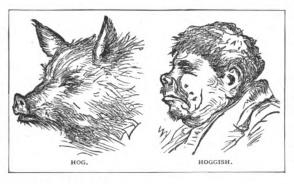
than to instruct. We shall claim no more for this chapter, but shall be satisfied if the reader has been pleasantly entertained, the organ of mirthfulness developed, and the upward curving lines at the corner of the mouth improved. However, while admitting that Comparative Physiognomy is still in a rudimentary state, it cannot be doubted that there must be some foundation in truth for the common belief that animal resemblances may be traced among men and women, and that they have some value, little or great, as signs of character.

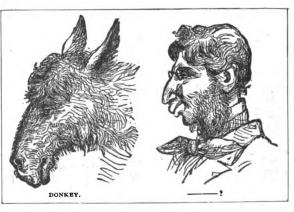


A COMPARISON.

As the face of a watch presents to the eye signs of the movements going on within, and ceases to tell the hour whenever those movements cease, so the "human face divine" is an index of internal emotions and loses all power to change its expression as soon as the vital powers are with-

drawn. Behind the face of the watch is the machinery—which is the watch. Behind the human countenance are the complicated apparatuses of bones, muscles and nerves, which form the human machinery; and behind this human machinery there is what the watch has not—the soul, the mind—the controlling intelligence which precedes the living organism to which it gives rational activity.





"The active and plastic principle is the soul—the true man—of which the body is but the external expression and instrument."



A SYNOPSIS OF THE VARIOUS ORGANS OF THE BRAIN.



T is only by a careful study of all the organs in combination that one may come to understand the various mental characteristics as shown by Phrenology. The accompanying diagrams give the exact location of the organs, and through the kindness of Messrs. Fowler & Wells we are enabled to give on the following pages a brief description of them, accom-

panied by an explanation of their influence on the character as determined by their size.

1.* Amativeness.

Reciprocal attachment and love of the sexes. Very large, experiences a power and activity of sexual love almost uncontrollable. Large, is an ardent admirer and tender lover of the other sex; feels strong sexual impulses, desire to marry, etc. Full, feels much love and tenderness for the opposite sex; yet, with activity great, has excitability rather than power. Average, loves the other sex, and enjoys their society well. Moderate, is rather deficient in sexual love, attentions to the opposite sex, etc. Small, feels little sexual or connubial love, or desire to marry. Very small, seldom or never experiences this feeling.

2. Philoprogenitiveness.

Parental attachment; love of one's offspring.

Very large, is passionately fond of all children; a general | favorite with them; idolizes his own children; is liable to overindulge them. Large, feels strong, tender parental love; is

Full, is tender, but not indulgent; fond of his own children, yet not partial to others. Average, loves his own children, yet not fondly; dislikes those of others. Moderate, loves his own children some, yet bears little from them. Small, feels little interest in even his own children. Very small, has no parental love; hates all children.

3. Adhesiveness.

Friendship; social feeling; love of society. Very large, loves friends with indescribable tenderness and strength of feeling; will sacrifice almost everything upon the altar of friendship. Large, is eminently social; an ardent, sincere friend; enjoys friendly society extremely; forms strong if not hasty attachments. Full, is highly social, yet not remarkably warmhearted. Average, is quite friendly, yet will not sacrifice much for friends. Moderate, loves friends some, yet self more; quits friends often. Small, is unsocial, coldhearted; likes and is liked by few or none. Very small, is a stranger to friendly social feeling.

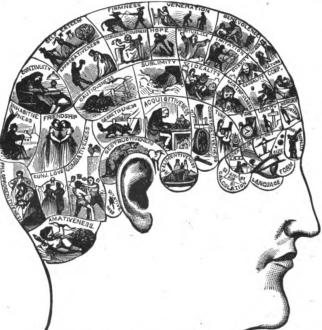


FIG. 4. THE PHRENOLOGICAL ORGANS SYMBOLICALLY ILLUSTRATED.

The above chart shows the location of the phrenological organs, and in the field of each organ its character is symbolically illustrated. Thus Firmness is indicated by the stability of the pyramid and the obstinacy of the mule, or the man who is contending with him; Veneration, by the attitude of prayer, and the courtesy of the boy toward old age; Benevolence, by the Good Samaritan; Cautiousness, by the frightened hen that fears detriment to her chicks; Secretiveness, by the fox; Acquisitiveness, by the miser, etc. These symbols are intended to make vivid the impression and thus help the memory.

A. Conjugality.

Monogamy, union for life, first love, the pairing instinct. Very large, selects some one of the opposite sex as the sole object of love; concentrates the whole soul on

the single one beloved, magnifying excellences and overlooking faults; longs to be always with that one; is exclusive, and requires a like exclusiveness; is true and faithful in wedlock, if married devotedly attached, and very kind to his own if not all children. in spirit. Large, seeks one, and but one, sexual mate, and

* The numbers refer to Fig. 5.

feels perfectly satisfied in the society of that one. Full, can love cordially, yet is capable of changing the object. Average, is disposed to love but one for life, yet, with secretiveness and approbativeness large, and conscientiousness only full, is capable of coquetry. Moderate, is somewhat disposed to love only one, yet allows stronger faculties to interrupt that love. Small, has but little conjugal love and seeks the promiscuous society and affection of the opposite sex, rather than a single partner for life. Very small, manifests none of this faculty.

4. Inhabitiveness.

Love of home as such; attachment to the place where one has lived; unwillingness to change it; patriotism. Very large, regards home as the dearest, sweetest spot on earth; feels homesick when away; dislikes changing residences; is preeminently patriotic; thinks of his native place with intense interest. Large, soon becomes strongly attached to the place in which he lives; loves home and country dearly; leaves them reluctantly; is unhappy without a home of his own. Full, loves home well, yet does not grieve much on leaving it. Average, forms some, though not strong, local attachments. Moderate, has some, but not great, regard for home as such. Small or very small, makes any place home.

5. Concentrativeness.

Unity and continuity of thought and feeling; power of enare and concentrated application to one thing. Very large, places his mind upon subjects slowly; cannot leave them unfinished, nor attend to more than one thing at once; is very tedious; has great application, yet lacks intensity and point. Large, is able and inclined to apply his mind to one, and but one, subject for the time being, till it is finished; changes his mental operations with difficulty; is often prolix. Full, is disposed to attend to but one thing at once, yet can turn rapidly from thing to thing; is neither disconnected nor prolix. Average, possesses this power to some, though to no great, extent. Moderate, loves and indulges variety and change of thought, feeling, occupation, etc.; is not confused by them; rather lacks application; has intensity, but not unity, of the mental action. Small, craves novelty and variety; has little application; thinks and feels intensely, yet not long on anything; jumps rapidly from premise to conclusion; fails to connect and carry out his ideas. Very small, is satisfied only with constant succession.

E. Vitativeness.

Love of existence as such; dread of annihilation. Very large, however wretched, shrinks from and shudders at the thought of dying and being dead; feels that he cannot give up existence. Large, loves and clings tenaciously to existence for its own sake; craves immortality and dreads annihilation, even though miserable. Full, desires life, but not eagerly, from love of it and of pleasure. Average, is attached to life and fears death, yet not a great deal. Moderate, loves life, yet is not very anxious about living. Small or very small, heeds not life or death, existence or annihilation.

6. Combativeness.

Feeling of resistance, defence, opposition, boldness, willingness to encounter, courage, resentment, spirit. Very large, is

powerful in opposition, prone to dispute, attack, etc.; contrary; has violent temper, governs it with difficulty. Large, is resolute and courageous, spirited and efficient as an opponent, quick and intrepid in resistance, loves debate, boldly meets, if he does not court, opposition. Full, seldom either courts or shrinks from opposition; when roused, is quite energetic; may be quick-tempered, yet is not contentious. Average, is pacific, but when driven to it, defends his rights boldly. Moderate, avoids collision; is rather pacific and inefficient. Small, has feeble resistance, temper, force, etc.; is cowardly. Very small, withstands nothing; is chicken-hearted, an arrant coward.

7. Destructiveness.

Executiveness, indignation, force, severity, sternness; a destroying, pain-causing disposition. Very large, when provoked, is vindictive, cruel, disposed to hurt, take revenge, etc.; bitter and implacable as an enemy; very forcible. Large, when excited, feels deep-toned indignation; is forcible, and disposed to subdue or destroy the cause of his displeasure. Full, can, but is loth to, cause or witness pain or death; has sufficient severity, yet requires considerable to call it out. Average, has not really deficient, yet none too much, indignation. Moderate, is mild, not severe or destructive enough; when angry, lacks power; can hardly cause or witness pain or death. Small, would hardly hurt one if he could, or could if he would; has so feeble anger that it is derided more than feared. Very small, is unable to cause, witness or endure pain or death.

8. Alimentiveness.

Appetite for sustenance; cause of hunger. Very large, sets too much by the indulgence of his palate; eats with the keenest appetite; perhaps "makes a god of his belly." Large, has an excellent appetite, a hearty relish for food, drink, etc.; enjoys them much; is a good liver; not dainty. Full, has a good appetite, yet can govern it; is not greedy. Average, enjoys food well, but not very well; hence is particular. Moderate, has not a good, nor very poor, but rather poor, appetite. Small or very small, is dainty, mincing, particular about food eats with little relish.

9. Acquisitiveness.

Love of acquiring and possessing property as such; desire to save, lay up, etc.; innate feeling of mine and thine, of a right to possess and dispose of things. Very large, makes money his idol; grudges it; is tempted to get it dishonestly; penurious, sordid, covetous, etc. Large, has a strong desire to acquire property; is frugal, saving of money, close and particular in his dealings, devoted to money-making, trading, etc.; generally gets the value of his money. Full, values property, both for itself and what it procures, yet is not penurious; is industrious and saving, yet supplies his wants. Average, loves money, but not greatly; can make it, but spends freely. Moderate. finds it more difficult to keep than to make money; desires it more to supply wants than to lay up; is hardly saving enough. Small, will spend money injudiciously; lays up little; disregards the prices of things. Very small, cannot be taught the value or use of money.

10. Secretiveness.

Desire and ability to secrete, conceal, etc. Very large, seldom appears what he is, or says what he means; often equivocates and deceives; is mysterious, dark, cunning, artful, given to double-dealing, eye-service, etc. Large, seldom discloses his plans, opinions, etc.; is hard to be found out; reserved; non-committal. Full, can keep to himself what he wishes to, yet is not cunning. Average, is not artful nor very frank; is generally open; can conceal. Moderate, is quite candid and open-hearted; loves truth; dislikes concealment, underhand measures, etc.; seldom employs them. Small, speaks out just what he thinks; acts as he feels; does not wish to learn or tell the secrets of others, yet freely tells his own; is too plain-spoken and candid. Very small, has a transparent heart.

11. Cautiousness.

Carefulness; provision against danger. Very large, hesitates too much; suffers greatly from groundless fears; is timid, easily frightened, etc. Large, is always watchful; on the lookout; careful, anxious, solicitous; provident against real and imaginary danger, etc. Full, has prudence and forethought, yet not too much. Average, has some caution, yet hardly enough for success. Moderate, is rather imprudent, hence unlucky; liable to misfortunes caused by carelessness; plans too imperfectly for action. Small, acts impromptu; disregards consequences; fears nothing; is imprudent, luckless, often in hot water. Very small, is destitute of fear and forethought.

12. Approbativeness.

Sense of honor; regard for character; ambition; love of popularity, fame, distinction, etc. Very large, regards his honor and character as the apple of his eye; is even morbidly sensitive to praise and censure; over-fond of show, fashion, praise, style, etc.; extremely polite, ceremonious, etc. Large, sets everything by character, honor, etc.; is keenly alive to the frowns and smiles of public opinion, praise, etc.; tries to show off to good advantage; is affable, ambitious, apt to praise himself. Full, desires and seeks popularity and feels censure, yet will neither deny nor trouble himself to secure or avoid either. Average, enjoys approbation, yet will not sacrifice much to obtain it. Moderate, feels reproach some, yet is little affected by popularity or unpopularity; may gather the flowers of applause that are strewed in his path, yet will not deviate from it to collect them. Small, cares little for popular frowns or favors; feels little shame; disregards and despises fashions, etiquette, etc.; is not polite. Very small, cares nothing for popular favor.

13. Self-Esteem.

Self-respect; high-toned, manly feeling; innate love of personal liberty, independence, etc.; pride of character. Very large, has unbounded self-confidence; endures no restraint; takes no advice; is rather haughty, imperious, etc. Large, is high-minded, independent, self-confident, dignified, his own master; aspires to be and do something worthy of himself; assumes responsibilities; does few little things. Full, has much self-respect; pride of character; independence. Average, respects himself, yet is not haughty. Moderate, has some self-respect and manly feeling, yet too little to give ease, dignity,

weight of character, etc.; is too trifling. Small, lets himself down; says and does trifling things; associates with inferiors; is not looked up to; lacks independence. Very small, is servile, low-minded, destitute of self-respect.

14. Firmness.

Decision, stability, fixedness of character, etc. Very large, is wilful, and so tenacious and unchangeable of opinion, purpose, etc., that he seldom gives up anything. Large, may be fully relied on; is set in his own way; hard to be convinced or changed at all; holds on long and hard. Full, has perseverance enough for ordinary occasions, yet too little for great enterprises; is neither fickle nor stubborn. Average, has some decision, yet too little for general success. Moderate, gives over too soon; changes too often and too easily; thus fails to effect what greater firmness would do. Small or very small, lacks perseverance; is too changeable to be relied upon.

15. Conscientiousness.

Innate feeling of duty, accountability, justice, right, etc.; moral principle; love of truth. Very large, is scrupulously exact in matters of right; perfectly honest in motive; always condemning self and repenting; makes duty everything, expediency nothing. Large, is honest; faithful; upright at heart; moral in feeling; grateful; penitent; means well; consults duty before expediency; loves, and means to speak, the truth; cannot tolerate wrong. Full, strives to do right, yet sometimes yields to temptation; resists besetting sins, but may be overcome, and then feels remorse. Average, has right intentions, but their influence is limited. Moderate, has considerable regard for duty in feeling, but less in practice; justifies himself; is not very penitent, grateful or forgiving; often temporizes with principle; sometimes lets interest rule duty. Small, has few conscientious scruples; little regard for moral principle, justice, duty, etc. Very small, does not feel the claims of duty or justice.

16. Hope.

Anticipation; expectation of future happiness, success, etc. Very large, has unbounded hopes; builds castles in the air. Large, expects, attempts and promises a great deal; is generally sanguine, cheerful, etc.; rises above present troubles; though disappointed, hopes on still; views the brightest side of prospects. Full, is quite sanguine, yet realizes about what he expects. Average, has some, but reasonable, hopes; is seldom elated. Moderate, expects and attempts too little; succeeds beyond his hopes; is prone to despond; looks on the darker side. Small, is low-spirited; easily discouraged; fears the worst; sees many lions in his way; magnifies evils; lacks enterprise. Very small, expects nothing good; has no hope of the future.

17. Spirituality.

Belief in the supernatural; credulity. Very large, is very superstitious; regards most things with wonder. Large, believes and delights in the supernatural, in dreams, ghosts, etc.; thinks many natural things supernatural. Full, is open to conviction; rather credulous; believes in divine providences, forewarnings, the wonderful, etc. Average, believes some, but not much, in wonders, forewarnings, etc. Moderate, believes but little that cannot be accounted for yet is open to

conviction; is incredulous, but listens to evidence. Small, is convinced only with difficulty; believes nothing till he sees facts, or why and wherefore, not even revelation farther than a reason is rendered; is prone to reject new things without examination. Very small, believes little else than his senses.

18. Veneration.

The feeling of worship for a Supreme Being; respect for religion and things sacred, and for superiors. Very large, is eminent, if not pre-eminent, for piety, heart-felt devotion, religious fervor, seriousness, love of divine things, etc. Large, loves to adore and worship God, especially through his works; treats equals with respect and superiors with deference. Full, is capable of much religious fervor and devotion, yet is not habitually serious; generally treats his fellow-men civilly. Average, may feel religious worship, yet little respect for men. Moderate, disregards religious creeds, forms of worship, etc.; places religion in other things; is not serious nor respectful. Small, feels little religious worship, reverence, respect, etc. Very small, seldom if ever adores God.

19. Benevolence.

Desire to see and make sentient beings happy; kindness. Very large, does all the good in his power; gladly sacrifices self upon the altar of pure benevolence; scatters happiness wherever he goes; is one of the kindest-hearted of persons. Large, is kind, obliging; glad to serve others, even to his injury; feels lively sympathy for distress; does good to all. Full, has a fair share of sympathetic feeling, and some, though not great, willingness to sacrifice for others. Average, has kind fellow-feeling without much active benevolence. Moderate, has some benevolent feeling, yet too little to prompt to much self-denial; does good only when he can without cost. Small, feels little kindness or sympathy; is almost deaf to the cries of distress; hard-hearted, selfish, etc. Very small, is destitute of all humanity and sympathy.

20. Constructiveness.

Mechanical dexterity and ingenuity; desire and ability to use tools, build, invent, employ machinery, etc. Very large, is a mechanic of the first order; a true genius. Large, shows great natural dexterity in using tools, executing mechanical operations, working machinery, etc.; loves them. Full, has fair mechanical ingenuity, yet no great natural talent or desire to make things; with practice will do well; without it, little. Average, has some, yet not great, relish for and tact in using tools. Moderate, with much practice, may use tools quite well, yet dislikes mechanical operations; owes more to art than nature. Small, hates, and is awkward and bungling in, using tools, etc. Very small, has no mechanical skill or desire.

21. Ideality.

Imagination; taste; fancy; love of perfection; poetry, polite literature, oratory, the beautiful in nature and art, etc. Very large, often gives rein to his erratic imagination; experiences revellings of fancy, ecstasy, rapture of feeling, enthusiasm. Large, has a lively imagination; great love of poetry, eloquence, fiction, good style, the beauties of nature and art. Full, has refinement of feeling, expression, etc., without sickly

delicacy; some love of poetry, yet not a vivid imagination. Average, has some taste, though not enough to influence him much. Moderate, has some, but not much imagination; is rather plain in expression, manners, feeling, etc.; dislikes poetry, finery, etc. Small, or very small, lacks taste, niceness, refinement, delicacy of feeling, etc.

B. Sublimity.

Conception of grandeur; sublime emotions excited by contemplating the vast, magnificent or splendid in nature or art. Very large, is a passionate admirer of the wild and romantic; feels the sublimest emotions while contemplating the grand or awful in nature. Large, admires and enjoys scenery, a vast prospect, etc., exceedingly; hence, enjoys travelling. Full, enjoys magnificent scenes well, yet not remarkably so. Average, sometimes, but not to a great degree, experiences this feeling. Moderate, has some, though not at all vivid, emotions of this kind. Small or very small, discovers little to awaken this feeling.

22. Imitation.

Disposition and ability to take pattern, imitate. Very large, can mimic, act out and copy almost anything; describe, relate anecdotes, etc., to the very life; has a theatrical taste and talent; seldom speaks without gesturing. Large, has a great propensity and ability to copy, take pattern from others, do what he sees done, etc.; needs but one showing; gesticulates much; describes and acts out well. Full, with effort, copies some, but not well; cannot mimic. Average, copies some, yet too little to deserve or excite notice. Moderate, cannot mimic at all; can copy, draw, take pattern, etc., only with difficulty; describes, relates anecdotes, etc., poorly. Small, dislikes and fails to copy, draw, do after others, etc.

Very small, has little ability to imitate or copy anything.

23. Mirthfulness.

Intuitive perception of the absurd and ridiculous; a joking, fun-making, ridiculing disposition and ability. Very large, is quick and apt at turning everything into ridicule, throws off constant sallies of wit; is too facetious, jocose, etc. Large, has a quick, keen perception of the Indicrous; makes a great amount of fun; too much for his own good; is quick at repartee; smiles often; laughs heartily at jokes. Full, has much mirthful feeling; makes and relishes jokes well. Average, perceives jokes, and relishes fun, but cannot make much. Moderate, has some witty ideas, yet lacks quickness in conceiving, and tact in expressing them; is generally quite sober. Small, makes little fun; is slow to perceive, and still slower to turn jokes; seldom laughs; thinks it wrong to do so. Very small, has few if any witty ideas or conceptions.

24. Individuality.

Observing and individualizing power and desire; curiosity to see and know; disposition to specify, personify. Very large, has an insatiable desire to see and know everything; extraordinary observing powers; is eager to witness every passing event. Large, has a great desire to know, investigate, examine, experience, etc.; is a great observer of men and things; quick of perception; sees what is transpiring, what should be done, etc.

Full, has fair observing powers, and desire to see things. Average, has some, yet no great, curiosity and desire to see things. Moderate, is rather deficient, yet not palpably so, in observing power and desire; not sufficiently specific. Small, is slow to see things; attends little to particulars: Very small, sees scarcely anything; regards things in the gross.

25. Form.

Cognizance and recollection of shape or configuration. Very large, never forgets the countenance, form, etc., of persons and things seen; easily learns to read and spell correctly; reads and sees things at a great distance; has excellent eyesight. Large, notices, and for a long time remembers, the faces, countenances, forms, looks, etc., of persons, beasts, things, etc., once seen; knows by sight many whom he may be unable to name. Full, recognizes persons, countenances, etc., well. Average, recollects forms, faces, etc., quite well, but not very well. Moderate, must see persons several times before he can recollect them; sometimes doubts whether he has seen certain persons.

Small or very small, has a miserable memory of persons, looks, shapes, etc.; fails to recognize even those he sees often.

26. Size.

Cognizance and knowledge of relative magnitude, bulk, etc. Very large, detects disproportion, and judges of size, with wonderful accuracy, by intuition, and as well without as with instruments; cannot endure inaccuracy. Large, has an excellent eye for measuring proportion, size, height, angles, perpendic-

ulars, etc.; quickly detects disproportions in them. Full, can measure ordinary and familiar distances well, yet shows no remarkable natural talent in it. Average, measures bulk with tolerable, though not great, accuracy. Moderate, is rather deficient in measuring by the eye; with practice, may do tolerably well in short, but fails in long, distances. Small, judges of relative size, etc., very inaccurately. Very small, can hardly distinguish mountains from molehills.

27. Weight.

Intuitive perception and application of the principles of specific gravity, projectile forces, momentum, balancing, resistance. Very large, has this power to a wonderful extent. Large, can walk on a high or narrow place; hold a steady hand, throw a stone or ball, and shoot, straight; ride a fractious horse, etc., very well. Full, keeps his centre of gravity well, but ventures little. Average, balances himself tolerably well in ordinary cases, yet has no great natural talent in this respect. Moderate, maintains his centre of gravity, etc., rather poorly. Small or very small, is unlike one with Weight large.

28. Color.

Perception and recollection of colors, hues, tints, etc. Very large, resembles one with Color large, but excels him. Large, has taste and talent for comparing, arranging, mingling, applying and recollecting colors; is delighted with paintings. Full, with practice, compares and judges of colors well; without it, does not excel. Average, can discern and recollect colors, yet seldom notices them. Moderate, aided by practice, can discern and compare colors, yet owes less to nature than art; seldom notices colors unless obliged to, and then soon forgets them. Small, seldom observes the color of one's hair, eyes, dress, etc.; cannot describe persons by what they wear, or compare colors apart; hardly distinguishes primary colors by candlelight. Very small, can tell white from black, but do little more.

29. Order

System; physical arrangement; a place for things. Very large, is very precise and particular to have every little thing in its place; literally tormented by disorder; is fastidious. Large,

has a place for things, and things in their places; can find, even in the dark, what he alone uses; is systematic; annoyed by disorder. Full, likes order; takes much pains to keep things arranged. Average, appreciates order, yet not enough to keep it. Moderate, likes but does not keep order; allows confusion. Small or very small, is nearly destitute of order.

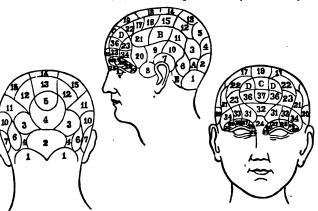


FIG. 5. THE PHRENOLOGICAL ORGANS, AS NUMBERED AND DESCRIBED.

30. Calculation.

Intuitive perception of the relations of numbers;

ability to reckon figures in the head; numerical computation. Very large, has an intuitive faculty of reckoning even complicated sums of figures in his head; delights in it. Large, can add, subtract, divide, etc., in his head, with facility and correctness; become a rapid, correct accountant; delights and excels in arithmetic. Full, aided by rules and practice may excel in reckoning figures, and do well in his head, but not without them. Average, by practice and rules may reckon figures quite well. Moderate, does sums in his head rather slowly and inaccurately. Small, is dull and incorrect in adding, dividing, etc.; dislikes it. Very small, can hardly count.

31. Locality.

Cognizance and recollection of relative position, looks and geography of places, etc.; desire to travel, see the world, etc. Very large, never forgets the looks, location or geography of any place, or even thing, he has ever seen; is even passionately fond of travelling, scenery, geography, etc. Large, recollects distinctly the looks of places where he saw things, etc.; seldom loses himself, even in the dark; has a strong desire to

travel, see places, etc. Full, remembers places well, yet is liable to lose himself in a city or forest; ordinarily shows no deficiency; seldom loses himself. Average, has a fair, though not excellent, recollection of places. Moderate, recollects places rather poorly; sometimes gets lost. Small or very small, seldom observes where he goes, or finds his way back.

82. Eventuality.

Recollection of actions, phenomena, occurrences, what has taken place, circumstantial and historical facts. Very large, never forgets any occurrence, even though it is trifling; has a craving thirst for information and experiment; literally devours books, newspapers, etc; commands an astonishing amount of information. Large, has a clear and retentive memory of historical facts, general news, what he has seen, heard, read, etc., even in detail. Full, recollects leading events, and interesting particulars, and has a good memory of occurrences, yet forgets less important details. Average, has neither a good nor bad memory of occurrences, etc. Moderate, recollects generals, not details; is rather forgetful. Small, has a treacherous, confused memory. Very small, forgets almost everything.

33. Time.

Cognizance and recollection of succession, the lapse of time, dates, how long ago things occurred, etc. Very large, remembers with wonderful accuracy the time of occurrences; is punctual; tells the time of day, etc., by intuition. Large, tells dates, appointments, ages, time of day, etc., well. Full, recollects about, but not precisely, when things occurred. Average, notices and remembers dates, times, etc., some, but not well. Moderate, has rather a poor idea of dates, the time when, etc. Small, can seldom tell when things took place; forgets dates. Very small, is liable to forget even his age.

34. Tune.

Tone; sense of melody and musical harmony; ability to learn tunes and detect chord and discord by ear; propensity to sing. Very large, learns tunes by hearing them sung once or twice; is literally enchanted by good music; shows intuitive skill, and spends much time in making it; sings from the heart, and with melting pathos. Large, easily catches tunes; learns to sing and play on instruments by rote; delights in singing; has a correct musical ear. Full, can learn tunes by ear well, yet needs help from notes. Average, likes music; with practice, may perform tolerably well. Moderate, aided by notes and practice, may sing, yet it will be mechanically; lacks that soul and feeling which reaches the heart. Small, learns to sing or play tunes either by note or rote with great difficulty; sings mechanically, and without emotion or effect. Very small, can hardly discern one tune or note from another.

35. Language.

Power of expressing ideas, feelings, etc., by means of words; ability to talk. Very large, has, by nature, astonishing command of words, copiousness and eloquence of expression, and verbal memory; quotes with ease; is an incessant talker; has too many words. Large, is a free, easy, ready, fluent talker and speaker; uses good language; commits easily; seldom hesitates for words. Full, commands a fair share of words, yet

uses familiar expressions; is neither fluent nor the reverse; when excited, expresses himself freely, yet not copiously. Average, can communicate his ideas tolerably well, yet finds some difficulty; uses common words; can write better than speak. Moderate, often hesitates for words; employs too few; may write well, and be a critical linguist, but cannot be an easy, fluent speaker. Small, employs few words, and those commonplace; in speaking, hesitates much; is barren in expression; commits slowly. Very small, can hardly remember or use words.

36. Causality.

Cognizance of the relations of cause and effect; ability to apply them, or to adapt means to ends; power of reasoning, etc. Very large, is endowed with a deep, strong, original, comprehensive mind, powerful reasoning faculties, great vigor and energy of thought, first-rate judgment, and a gigantic intellect. Large, plans well; can think clearly and closely; is always enquiring into the why and the wherefore, the causes and explanation of things; always gives and requires the reason; has by nature excellent judgment, good ideas, a strong mind, etc. Full, adapts means to ends well; has an active desire to ascertain causes, yet not a deep, original, cause-discovering and applying mind. Average, has some, but not great, ability to plan and reason. Moderate, is rather slow of comprehension; deficient in adapting means to ends; has not good ideas or judgment. Small, has a weak, imbecile mind; cannot contrive or think. Very small, little idea of causation; is a natural fool.

37. Comparison.

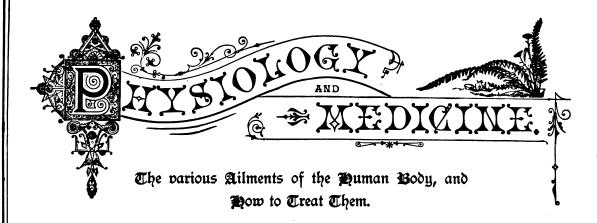
Perception of analogies, resemblances, differences; ability to compare, illustrate, criticise, classify, generalize, etc. Very large, is endowed with an extraordinary amount of critical acumen, analytical, comparing and illustrating power. Large, has a happy talent for comparing, illustrating, criticising, arguing from similar cases, discriminating between what is and is not analogous or in point, classifying phenomena, and thereby ascertaining their laws, etc. Full, illustrates, discriminates, etc., well, but not remarkably so. Average, perceives striking analogies; illustrates tolerably well. Moderate, may discern obvious similarities, yet overlooks others. Small or very small, is almost destitute of this power.

C. Human Nature.

Discernment of character and perception of motive. Large or very large, perceives, as if by intuition, the character and motives of men from their physiognomy, conversation, etc.; is suspicious, and seldom deceived; naturally understands human nature. Moderate or small, seldom suspects others; is easily imposed upon, learns human nature slowly; does not know well how to take men.

D. Suavity.

Ability to render oneself agreeable; pleasantness. Large or very large, readily wins confidence and affection, even of enemies; can say and do hard things without creating difficulty; obtain favors; get along well; so say and do things that they take. Average or full, neither excels nor is deficient in this respect. Moderate or small, is deficient in the power described; says pleasant things unpleasantly, and does not succeed in winning people's good graces.





HE mechanism to be studied in the body of a living animal—more particularly the highest of all animals, man—is of such wonder and beauty, exquisite finish and perfection, that, could it all be comprehended and long enough retained by the memory to afford one broad contemplation of its simplest facts, all the triumphs of art could bear no relation to its loveliness.

Huxley so concisely and clearly begins his delightful little volume of *Elementary Physiology*, that for the purposes of this article we cannot do better than to quote his opening lines. "The body of a living man," he says, "performs a great diversity of actions, some of which are quite obvious, others require more or less careful observation, and yet others can be detected only by the most delicate appliances of science.

"Thus some part of the body of a living man is plainly always in motion. Even in sleep, when the limbs, head and eyelids may be still, the incessant rise and fall of the chest continues to remind us that we are viewing slumber and not death.

"More careful observation is needed, however, to detect the motion of the heart, or the pulsation of the arteries, or the changes in the size of the pupil of the eye with varying light, or to ascertain that the air which is breathed out of the body is hotter and damper than that which is taken in by breathing.

"And lastly, when we try to ascertain what happens in the eye when that organ is adjusted to different distances, or what in a nerve when it is excited; or of what materials flesh and blood are made; or in virtue of what mechanism it is that a sudden pain makes one start—we have to call into operation all the methods of inductive and deductive logic, all the resources of physics and chemistry, and all of the delicacies of the art of experiment."

It is plainly obvious that man differs from the stones and earth, the flowers and trees, and all inanimate objects. He is warm, while these things are cold; he is able to move about at will while they must remain always in one place; he can exert power and force, while they must remain forever inactive; he is possessed of mind and purpose to guide him, while they are influenced only by the elements.

Combustion and Heat.

Now warmth is clearly due to the burning of something. The warmth of the day and the heat of the summer come to us from that great central file, the sun, whose flames leap up from its surface tens of thou ands of miles. The warm breezes at night, when the sun does not shine upon us, and the temperate winds which from time to time visit us in winter, all gain their warmth from some great tract of southern land or tropical body of water, which, previously heated by the fires of the sun, now radiates the heat absorbed therefrom, warming the surrounding atmosphere, which, moving in currents, carries heat from the tropics even to the very poles.

When the sun's heat is not sufficient for our purpose, we make artificial fires of wood, coal, oil or gas. There is no heat or warmth, however slight, that is not produced by combustion, or oxidation, or, in other words, the burning of something. But all things do not oxidize or burn with a flame, as in the case of our furnace fires. You every day see objects burn without coming to a blaze, but only with the red glow of a live coal. Other things you see burn and crumble to ashes which never even come to a glow. If you hold over a lamp, and at a little distance from it, a piece of writing-paper, it will burn black and finally crumble in ashes without showing a single spark of fire or light, and yet it so rapidly burns that it crumbles to pieces in the space of only a few moments. The character or appearance of combustion or oxidation depends entirely upon the rapidity with which the article is burned. Thus, some objects burn with an explosion, some with a flame, some with a glow, while some show only a simple evolution of heat. Gunpowder so quickly burns that great force is exerted, though we see but a single flash of light. Dry pine burns far more slowly; the force of its heat is distributed over a greater length of time, and hence there is no disastrous explosion, though it burns with a roaring flame. Peat burns still more slowly, and with the glow of a live coal. In the slaking of fresh lime an oxidation or burning takes place, and great heat is given off, but there is no flame, no glow, no spark of light. A thousand things burn still more slowly, some of them requiring years or centuries, under certain conditions, in oxidation, and, while constantly giving off heat, the burning is so slow and the amount of heat given off therefore so exceedingly small, that it is not detectable except by the most delicate instruments of science.

If combustion takes place almost instantly, as in the case of dynamite, or gunpowder, or certain gases, we call the result explosion. If it goes on more slowly, as with wood, coal or peat, we call the process burning. If combustion takes place still more slowly, as in slacking lime, or in a bin of wheat or barley, where heat is given off, but without a spark of fire or light visible, we commonly call the process oxidation. Thus, you see, the words explosion, combustion, burning and oxidation mean practically one and the same thing, and that all force, or heat, or warmth, comes from the oxidation or burning of something, either rapidly or slowly, visibly or invisibly.

"If a mass of seeds be laid together," says Draper, "as barley in the making of malt, the operation conducted at a gentle temperature, and with the access of atmospheric air, oxygen disappears, carbonic acid is set free, and the temperature rises forty or fifty degrees. A process of oxidation must, therefore, have been carried into effect, and to it we trace the heat disengaged; for carbon cannot produce carbonic acid without a rise of temperature ensuing. The loss of weight which the seed exhibits is therefore due to its loss of carbon, and the whole effect is explained in the statement that atmospheric air has united with a portion of the carbon contained in the seed, producing carbonic acid gas and an evolution of heat."

If we put a lighted candle into a glass jar and seal it up airtight, it will continue to burn for a certain time, the duration of which will depend upon the size of the jar; the flame will grow less and less, until finally it will go out, and the candle will cease to burn. As soon as the air in the jar has cooled a little, drops of moisture will collect on the inside of the jar, showing that in burning the candle has given off water. If we now open the jar and test the temperature with a thermometer, we find the air of the jar warmer than when the candle was put into it, showing that in burning heat was given off. If we now force some of the air of the jar through lime water, the water becomes milky from the precipitate of carbonate of lime, showing the presence of carbonic acid in the air of the jar, which was not present before the burning of the candle-showing that in the burning carbonic acid was given off. If a further analysis be made it will be discovered that the oxygen of the air in the jar has disappeared, and if the candle be weighed, it will be found to have

Such is the result of all combustion or oxidation—heat is given off, water and carbonic acid are evolved, oxygen is consumed, and the burning object loses substance.

Oxidation and Animal Heat.

If, in winter, we place a healthy living man in a cold, dry room with closed glass windows, having carefully noted the temperature of the room and the exact weight of the man, and shut him in as we did the burning candle in the glass jar, and then require him to walk up and down for an hour, the same important facts may be observed as in the case of the candle. In his exercise he will have obviously exerted a great amount of mechanical force—as much at least as would be required to lift his own weight as high and as often as he has raised himself at every step, which, in the aggregate, would be about a mile or more above the ground. At the end of an hour let the temperature of the room again be taken, and it will be found to be warmer than at the beginning. The man has, therefore, given off heat. If the windows of the room be observed, the glass will be found covered with the vapor of water, which, if the air outside be sufficiently cold, will be converted into ice or frost, such as is seen in the morning upon the window-panes of our sleepingrooms in winter-showing that he has given off water. If some of the air in the room be now forced through lime water, the water will be found milky from the precipitate of carbonate of lime, showing the presence of carbonic acid in the air, which, like the heat and the water, has been given off by the man, just as we have seen that heat, water and carbonic acid are given off by a burning candle.

And so, if the air of the room be further analyzed, a large amount of oxygen will be found to have disappeared. The flame of the candle died and the light went out when all the oxygen in the jar had been consumed; so would the fires of life in the man likewise have died out had he not been released before all the oxygen in the closed room had been breathed into his lungs and consumed. Furthermore, if the man be now again weighed at the end of the hour, he will be found to have lost weight just as the candle lost weight in burning and the barley in oxidation. Thus, in the concise language of Huxley: "A living, active man constantly exerts mechanical force, gives off heat, evolves carbonic acid and water, and undergoes a loss of substance." In other words, his tissues are constantly burning up. or oxidizing, and when this process ceases he grows cold and dies. Oxidation of the candle is started by applying a flame to the wick. Once begun, it needs no further aid. The oxygen of the air unites with the carbon of the candle, and the evolution of heat, carbonic acid gas and water in the form of vapor is the result, and the process continues until the candle is consumed or the supply of oxygen shut off.

As we have seen, a man, like the lighted candle, is constantly burning up, or oxidizing—giving off heat and water and carbonic acid, and the ashes of his burned tissues. He loses every day 300 grains of nitrogen (which is the ashes of his muscles), six and a half pounds of water, and burns ten and a half ounces of carbon. Altogether he loses from seven to ten pounds in weight daily. It is clear that this state of things could not continue very many days or the man would dwindle to nothingness. He would last but a few days longer than his candle. But long before this loss of substance can be noticed by another it is felt by the subject, who suffers from hunger and thirst. He takes food and drink, which being digested and made into blood, his wasted tissues are repaired, and the loss by oxidation

is made good. A man may be likened to a lamp that is ceaselessly fed and as ceaselessly wastes away. Or he may be likened to a steam engine. The food which he takes, digests, assimilates and burns, corresponds to the coal which is burned in the furnace of the machine; his warmth and life and strength correspond to the heat and power of the engine. The warmth and strength of the man and the heat and power of the engine are due to the fuel burned in the tissues of the one and the furnace of the other.

Power and Life Due to Heat.

All force, of whatever kind, is due to heat. A large part of the machinery of the world is run by steam power, which is produced by heat. The winds are caused by the heated tracts of land or bodies of water, where the atmosphere in consequence becomes rarified, and currents of colder air rush across the face of the earth with gentle, or sometimes terrific force, to fill the vacuum. All the force of the stream and the waterfall is due to heat, which evaporates the water of the sea, and, lifting it up in vapor, carries it in the warm breezes back to the high land, where, cooling, it falls in rain and rushes with force through gulleys and the river-beds back to the sea. In like manner heat is the cause of power in animals and men. Food is the fuel; the entire body is the furnace; through the lungs is the draft of air. Oxidation and heat and life and power and force are the result.

But the fuel proper for the steam engine is wholy unsuitable for this human engine. To enable the body to continue exert-

ing force and giving out heat, water and carbonic acid at the same rate, for an indefinite period, it is absolutely necessary that the body should be supplied with three things, and with three only. These are fresh air, water and food. Mr. Huxley says: "In a properly nourished man a stream of food is constantly entering the body in the shape of complex compounds containing comparatively little oxygen; as constantly the elements of the food (whether before or after they have formed a part of the living substance) are leaving the body combined with more oxygen. And the incessant breaking down and oxidation of the complex compounds which enter the body are definitely proportioned to the amount of force which the body exerts, whether in the shape of heat or otherwise. Let a man lift a heavy body from the ground, and the loss of weight which he would have undergone without that exertion will be immediately increased by a definite amount, which cannot be made good unless a proportionate amount of extra food be supplied him; just in the same way as the amount of work to be gotten out of a steam engine and the amount of heat it and its furnace give off bear a strict proportion to its consumption of fuel."

In every instance the production of animal heat and force is due to oxidation taking place in the economy. This oxidation takes place in the blood, and in the tissues themselves in every part of the body. The food, which is the fuel of this human engine, before it can reach the tissues where it is burned, must undergo elaborate preparation.

THE DIGESTIVE ORGANS.

There are a large number of organs whose sole use is the preparation and elaboration of the food, rendering it suitable for cousumption by the economy. These organs, taken together, are known as the digestive organs. They consist of machinery for dividing and grinding the food and testing its quality; of glands for the manufacture of chemical fluids for dissolving it; of receptacles for holding and warming it while it is acted upon by the dissolving fluids; of canals through which it is passed from one receptacle to another; of absorbents which take up and carry the refined product into the current of the blood, and of a further tube to carry out of the hody the insoluble and unsuitable constituents of the mass taken into the stomach. These organs are the mouth, tongue, palate, teeth, salivary glands, pharynx, asophagus, stomach, small intestines, large intestines, the liver, and the pancreas, or sweetbread.

PHYSIOLOGY OF THE DIGESTIVE ORGANS. The Mouth.

The mouth is the cavity into which food is first introduced. It is supplied with organs for testing the quality of the food; with organs for dividing and grinding, and with a fluid for moistening and softening, and for converting the insoluble starch of the food into a soluble sugar. It has a fixed roof, formed by what is known as the hard palate (3), and with a

movable floor made up of the tongue and the lower jaw. Around the sides and front of the mouth are two rows of sixteen teeth each, which spring from the upper and lower jaws, and outside of these the cavity is closed at the sides by the cheeks, and in front by the lips. When the mouth is closed the tongue comes in close contact with the roof (3), and back of the hard palate the communication with the nasal cavity and the pharvnx is further impeded by a curtain of flesh, the soft palate, in the middle of which, at the extreme back part of the cavity of the mouth, is a small prolongation or teat of flesh, the uvula (4). On each side are double muscular cords (5 and 6), which are known as pillars of the fauces, and between these on each side are the tonsils (7). At the back part of the base of the tongue is a lid, the epiglotis (9), made of cartilage, or gristle. which closes the entrance to the trachea (12). Behind the uvula and the epiglotis is the cavity of the pharynx (8 and 11), which has walls of muscles and covered with mucous membrane. It is larger at the top than at the bottom and has seven openings into it: two from the back part of the nasal cavity; two (one on each side) above and close to these-the openings of the eustachian tube (2), leading to the ears; one from the back part of the cavity of the mouth (8); one from the trachea (12) or windpipe, and one leading into the asophagus (11) or gullet. The whole cavity of the mouth and the pharynx (as well as the entire alimentary tract, which includes the gullet, stomach and intes-

tines) is lined by a delicate membrane, known as the mucous membrane. It commences on the lips where it joins the skin; it is red and moist and soft and tender; its structure is like that of the skin, only more delicate and more easily wounded. It is full of minute little glands which secrete a fluid known as mucus, and which keep the membrane moist. Besides these little mucous glands there are three pairs of large glands which secrete three different kinds of fluid, known as saliva, and the glands as salivary glands. These glands are named according to their situation: the sub-lingual, under the tongue; the submaxillary, under and to the inside of the lower jaw. The saliva secreted by these two pairs of glands is emptied into the mouth through a small duct under the tip of the tongue. The parotid gland lies in front of the ear, and its duct opens into the mouth on the inside of the cheek opposite the second upper double tooth.

The Teeth.

Each of the thirty-two teeth has a crown, a pulp, and one or more roots or fangs, which are received into sockets in the jaw-bone. The teeth are composed of ivory, an enamel and a cement which securely fastens them in their sockets.

Every person who lives to adult life is given two sets of teeth. The first set, consisting of twenty teeth (ten above and ten below), are known as the temporary set, and the last, consisting of thirty-two (sixteen above and sixteen below), are known as the permanent set.

After these, now-a-day, a person can have as many additional sets of teeth as he can pay for.

The four teeth in each jaw which are directly in front have sharp, chisel-like edges, and are known as the *incisors*, or cutting teeth. Next these on each side is a long, round-cornered and sharp tooth, something like the tooth of the dog, and

hence known as the canine or tearing tooth. The next two teeth on each side have two prominent points or cusps on the surface of the crown, and are therefore called bi-cuspids. All of these have generally but a single root or fang. The remaining twelve teeth have two or more roots and broad, heavy crowns, and are known as molars or grinding teeth. (See Fig. 2.)

Each tooth is supplied with blood-vessels and a nerve, which enter, to pass into the pulp, at the root of the tooth, as shown by the illustration.

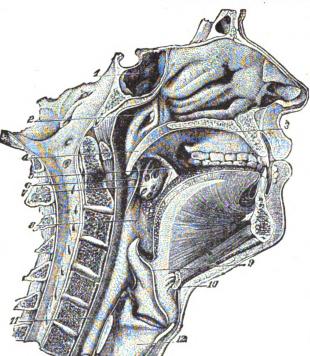
When solid food is first taken into the mouth, it is first submitted to division and grinding by the teeth. It is kept between the teeth by the muscles of the cheeks on the outside, and by the tongue from the inside. When the teeth are closed together the food is pressed out on either side, but is immediately replaced by the action of these muscles, and this is continued until the entire mass is thoroughly rubbed down. During this process the salivary glands have been excited and have poured into the mouth their fluids, which have become incorporated with the food, while the glairy mucus from the mouth coats the bolus of food thus prepared for the action of the stomach. By the action of the tongue the bolus is forced backward into the pharynx, the soft palate and valve prevent-

ing its passage upwards into the back part of the nasal cavity, while the epiglotis closes down securely over the entrance into the windpipe, and, the muscles of the pharynx contracting upon the bolus, the movement or act of swallowing is performed. The bolus glides over the epiglotis and is then carried through the œsophagus, or gullet, into the stomach, where it is digested.

The Stomach.

The stomach (see Fig. 3) is the principal organ of digestion. It lies immediately below the diaphragm in the cavity of the abdomen, being separated from the heart and lungs above by the diaphragm, and lies more upon the right side of the body than the left. It is a muscular pouch, being, when moderately full, about twelve inches long by four inches deep. It is covered on the outside by a delicate, smooth membrane, which covers also the intestines and lines the entire cavity

and lines the entire cavity of the abdomen. This membrane secretes a small amount of fluid in health, sufficient to so lubricate its surfaces that the organs may glide over each other without injury. The stomach is lined by the mucous membrane, spoken of previously as lining the entire alimentary tract. This membrane in the stomach is thick, smooth, soft and velvety. When the stomach is empty it lies in folds, or ruga. When the stomach is full these folds are



of the fauces; 7, tonsil; 8 and 11, pharynx; 9, epiglotis; 12, larynx.

Next these on each side is a Fig. 1.

long, round-cornered and 2, Opening of the custachian tube; 3, hard palate; 4, soft palate; 5 and 6, pillows

obliterated. When the mucous membrane of the stomach is examined by a magnifying-glass, it presents a peculiar honeycombed appearance, which is due to the opening of the ducts from little glands situated in and beneath the membrane. These glands secrete an acid fluid known as the gastric juice, and a certain substance known as pepsin, which, together, have the power to dissolve a certain class of foods known as proteids, presently to be described. The stomach has two openings, one by which food is received from the gullet, or asophagus, and called the cardiac orifice; the other by which the contents of the stomach are passed into the small intestine, and known as the pyloric orifice, which is guarded by a kind of valve—the pylorus.

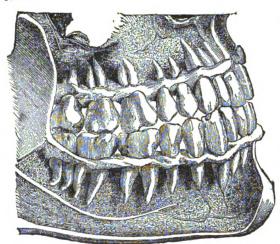


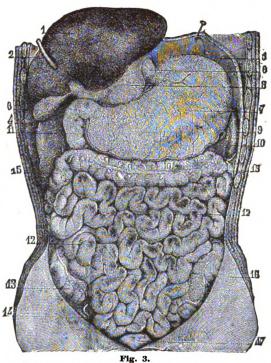
Fig. 2.

The Intestines.

The intestines form one long convoluted tube with muscular and mucous coats like the stomach, lie wholly within the abdominal cavity, and are enveloped by the peritoneum. They are divided into the small intestines and the large intestines, the latter having a far greater diameter than the former. The small intestine is about twenty feet long and divided into the duodenum, the jejunum and the ilium. The lining mucous membrane is thick, velvety, and full of blood vessels. It is thrown into transverse folds, which are about two inches long, and half an inch in depth in their broadest place, and are called valvulæ conniventes. These folds are covered by a net-work or tufts of capillary and lacteal vessels known as villi. These are very numerous-the number in the whole length of the intestines being estimated at four millions. In the upper part of the duodenum empties the duct from the pancreas and the bile duct from the liver, both of which organs secrete a digestive fluid which, being poured into the duodenum, completes the solution of the food received from the stomach.

The large intestine extends from the termination of the small intestine to the outlet. It is about five feet in length. It differs from the small intestine in its greater size, more fixed position and its sacculated form. It is divided into the caccum,

the colon and the rectum. The cœcum is a dilated pouch, into which the ilium empties. It is situated on the right side of the body in the lower part of the abdominal cavity. Continuous with this rises the colon. It passes upward on the right side of the body, until it reaches the under surface of the liver, when it crosses transversely to the left side of the body, and then descends. It is lined by mucous membrane, but its structure is not of sufficient importance to demand attention here.



1, 4, Liver; 2, ligament of liver; 3, gall-bladder; 5, diaphragm; 6, lower end of the œsophagus; 7, stomach; 8, 10, omentum; 9, spleen; 11, duodenum; 12, 12, small intestine; 13, œccum; 14, ensiform appendix; 15, transverse colon; 16, descending colon; 17, urinary bladder.

The Liver.

The liver is the largest gland in the body, weighing from three to four pounds. It belongs to the digestive apparatus, its function being chiefly the secretion of bile; still it undoubtedly effects important changes in the blood during its passage through the gland. It is placed in the abdominal cavity, on the right side of the body, on a level with the lower ribs. Its upper surface is in contact with the diaphragm, which separates the liver from the right lung. It measures, from side to side, ten to eleven inches; from before backwards, six to seven inches, and is about three inches thick in its thickest part. It is held in place by strong ligaments, and is covered by the same serous membrane, the peritoneum, which covers the stomach and other abdominal organs. The liver is made up of hepatic or liver cells, whose function it is to secrete the bile, and of a substance known as glycogen, which will be spoken of again. The bile or gall is a compound fluid of golden yellow color, and very

bitter in taste, and the total quantity secreted in twenty-four hours is probably not less than two or three pounds. It is both a secretion, i.e., an essential digestive fluid, and an excretion, i.e., contains elements of waste—the ashes, so to speak, of oxidized tissues, which, being emptied into the intestines, are carried out of the body.

The Pancreas.

The pancreas is very similar in structure to the salivary glands. It is placed in the abdominal cavity beneath the stomach, and extends from the duodenum on the right to the spleen on the left. The pancreas is oblong in shape, and larger at one end than the other. The larger end, known as the head, is in contact with the duodenum, gently tapering to the left as it approaches the spleen, into what is called the tail. The entire gland is about six or seven inches long, an inch and a half broad, and three-quarters of an inch thick, and averages three ounces in weight. The pancreas secretes a digestive fluid very similar to the saliva, which empties into the duodenum through an orifice in common with the bile from the gall-bladder.

The Process of Digestion.

When the stomach is empty the lining membrane is pale, the blood-vessels contracted, and the stomach glands secreting scarcely more than enough fluid to moisten the surface. As soon, however, as food is taken into the stomach, the nerves of the part are stimulated to activity, the blood-vessels dilate, the mucous membrane becomes red, and little drops of fluid begin to appear at the mouths of a thousand little glands and run down as gastric juice. The presence of food in the stomach sets up a contraction of its walls, which rolls the food about, not unlike cream in a churn, until the digestive or dissolving fluid becomes thoroughly incorporated with the food. We have seen that saliva has the power of acting upon starchy foods, converting the starch into sugar, but has no power to dissolve that class of foods essential to life and known as vital food-stuffs-proteids. Among the proteids may be mentioned the gluten, albumen, fibrin, syntonin, casein, etc., which are the chief food constituents of bread, eggs, meat, cheese and milk. Now the gastric juice has the power of dissolving these articles of food at the temperature of about 100 degrees, or that to which the food is raised in the stomach. The motion of the food in the stomach has no other value than to thoroughly mix it with the digestive fluid. When the proteids, whether from meat, or bread, or eggs, or cheese, are dissolved, we have a substance known as peptones. Peptones are readily absorbed and taken into the current of the blood. Still there are many articles of food that are not dissolved in the stomach. As soon as the starch-foods, or amyloids, become incorporated with acid fluid of the stomach, the solution which has begun by the alkaline saliva ceases, and these starchy foods pass out of the stomach unchanged. The fats, too, are not digested in the stomach; neither is the solution of proteids—bread, meat, cheese, etc.—completed in the stomach. A large part of the peptones are absorbed by the stomach and taken into the current of the blood. The remaining contents, the starches, fats, and half-dissolved proteids, are permitted slowly to flow out of the stomach through the pyloric orifice into the duodenum.

Here it mixes with the bile from the liver, which has been saved up in a little reservoir, the gall-bladder, for this purpose, and with the fluid from the pancreas, and with the juice from the intestinal glands, which together have the power of digesting the starchy foods, breaking up the fats into an emulsion (or held in suspension, as butter is in new milk before it is churned) and completing the solution of the proteids, so that here all the starch of the vegetables we eat is converted into a peculiar sugar known as grape sugar; all the butter, fats and oils made into an emulsion; all the gluten, and syntonin, and casein, and albumen of the bread, and meat, and milk, and cheese, and eggs which we eat is converted into peptones. Now this grape sugar, and the emulsions, and the peptones, are very readily absorbed by the millions of villi, or the velvety little tufts of blood-vessels and lacteals which cover the folds on the intestinal mucous membrane. Those parts of the food unfit for the use of the body, or which are not needed, are passed along into the large intestine, and finally carried out of the body.

DISEASES OF THE DIGESTIVE ORGANS.

We have seen how perfect is the machinery for the elaboration of our food, and the many processes through which it goes, by which it is rendered fit to be taken into the current of the blood to rebuild the wonderful organs of man's mechanism and to restore the tissues which have been burned up in the production of power necessary in work, and in the production of animal heat, which is essential to life. More than this, man is supplied with every desirable means of testing the kind and quality of his food before it is introduced into this wonderful laboratory. To digest the stone of a peach would be impossible; such things, taken into the stomach, could not result otherwise than in death. The pit is taken into the hand, or tried between the teeth, and, perceiving its hardness, it is rejected, even by a starving idiot, as unfit for food. Two wonderful faculties is man possessed of necessary to the proper inspection of food-the sense of smell and the sense of taste. The aroma and flavor of substances fit for food he is made to like; while the odor and taste of substances unfit for food and harmful to the body are made disagreeable, nauseous, or even disgusting to him. Tainted meat, or decomposing eggs, would be most harmful taken into the stomach. Hence, such articles are promptly rejected by the official inspectors—smell and taste. Certain harmful substances may fail of detection, either by sight, or smell, or taste, or any of the senses a part of whose function is to inspect the food, and therefore, as in the case of certain poisons, be taken into the stomach. But even in the stomach there seems to reside a sense of the fitness of things, and the poison is, by the act of vomiting, immediately rejected. If any part of an offending substance is carried into the duodenum, an action is there immediately set up to hurry it out of the body. Nothing could be more perfect than this system of inspection and elaboration of the food. Nothing further in this direction could be desired, so long as the apparatus of this wonderful laboratory continues in good repair-in other words, so long as the organs remain in health. Every organ and tissue in the body is liable to get out of repair. Whenever any organ fails to do its work or shows any defect, we say it is diseased.

Mumps.

PAROTITIS, OR MUMPS, is an inflammation of the parotid gland-that one of the salivary glands which is situated in front of and below the ear. While the swelling and soreness are local, the disease is evidently constitutional. The amount of swelling, soreness and pain varies in different cases. There is usually considerable pain, particularly upon moving the jaw. The swelling may be limited to one side, or both sides may be involved. When both sides are affected, usually one side is invaded a day or two in advance of the other. It is commonly believed to be contagious, although some high authorities deny this. Whether it may be communicated from one person to another or not, it is sometimes, at least, endemic. Persons between 18 and 30 years of age are most susceptible to the disease. It never occurs but once in the same person. The disease is usually trivial and never dangerous. No physician is needed—the popular fear of taking cold is groundless. If the pain is severe, the patient will do well to lie down and keep quiet. Hot fomentations may be applied to the swelling, and twenty drops of laudanum may be taken once in three or four hours to relieve the pain.

Acute Tonsilitis-Quinsy.

QUINSY, or TONSILITIS, is an inflammation of the tonsil. One or both tonsils may be involved. It is a very distressing and painful disease, and swallowing is rendered very difficult by the great swelling of the tonsils, which often apparently quite closes the opening into the pharynx. The affection, however, is not dangerous. It usually ends in an abscess, which breaks upon the inside. There is a predisposition to the disease in some persons, who suffer from repeated attacks. An attack is sometimes caused by exposure to cold. Persons predisposed to the disease should have the tonsils removed, as should be done in all persons with permanently enlarged tonsils. A perfect instrument is made especially for this purpose. The removal of a tonsil is but the work of a moment on the part of the surgeon. The operation is attended with scarcely any pain, the wound is altogether trivial, and a permanent cure is effected and the patient relieved from a constant source of discomfort. During an acute case of tonsilitis, or quinsy, the patient should remain in bed; poultices, or flannels wrung out of hot water, may be applied to the throat; steam may be inhaled, and a gargle of a saturated solution of chlorate of potassium in water may be used. In addition, the following prescription will be found of great use:

Quinine, - - - 24 grains.

Morphine, - - 1 grain.

Make six powders. Take one every four hours.

Acute Pharyngitis-Sore Throat-Cold.

ACUTE PHARYNGITIS is an acute inflammation of the mucous membrane of the pharynx, and is one form of a cold. On looking into the throat the membrane is found to be red and inflamed. If it extends deep into the pharynx there will be a cough, which is not in any way husky, showing that the larynx is not affected. There is considerable soreness and pain when an attempt is made to swallow, and very often there is a

white exudation, both in the throat and on the tonsils, which are usually more or less inflamed. These white points often lead to mistaking the disease for diphtheria. The affection is often attended with considerable fever. The duration of the disease is from five to ten days. The treatment recommended for quinsy should be employed.

Chronic Granular Pharyngitis—Clergyman's Sore Throat.

CHRONIC PHARYNGITIS is an inflammation of the mucous membrane of the pharynx of long standing. It frequently exists without the patient making any complaint. There is usually, however, a dry, hacking cough, which is increased by fatigue or mental depression, and the voice frequently becomes hoarse from speaking. It is a disease of middle life, is much more common in men than women, and from the annoyance it occasions clergymen it has received the name of clergyman's sore throat. It occurs no more frequently among clergymen than other persons, but, because of the necessity for using the voice, it occasions them more inconvenience. The disease is not dangerous and has no tendency to run into consumption or any other disease. Still it is apt to persist for many years, and is very difficult to cure. The following prescription will do good, and, with proper hygienic care, may produce a cure.

Iodide of potassium, - - 4 drams.

Bromide of potassium, - - 1 ounce.

Compound tincture of gentian, - 6 ounces.

Dose.—One teaspoonful in a wine-glass of water three times a day after meals.

The above should be continued for a long time. Quinine in two-grain doses may be taken three times a day. Outdoor exercise should be taken; relaxation from mental labor, together with recreation and good living, will be found of the greatest benefit. If the patient is dyspeptic, particularly, he should abandon the starvation brown-bread diet, and demonstrate his ability to live as other men do, upon a generous diet such as his appetite craves. Let the variety of food taken be as great as possible.

Dyspepsia.

ACUTE DYSPEPSIA—commonly called a bilious attack, or fit of indigestion—is a disorder of short duration. It begins by a sense of weight and fulness, and of pain in the region of the stomach; nausea and vomiting often occur, and later there may be a diarrhœa. There is generally slight fever and considerable pain in the head.

SICK HEADACHE is an acute dyspepsia, differing from the above only in the more frequent occurrence of vomiting and severe headache. The vomited matters usually contain bile, and the patient is commonly described as bilious. The disease is commonly held by physicians to be an affection of the mucous membrane of the stomach, while it is by good authority also claimed to be of nervous origin. Whatever the original cause, acute indigestion is the result, and the evacuation of the stomach and bowels is the way of relief. One or two compound cathartic pills may be given after the first occurrence of vomiting. Strict rest in bed must be required. The writer has

found the following prescription, after vomiting has occurred, to be of the utmost service in numerous cases:

Hydrate of chloral, - - 15 grains. Sulphate of morphia, - - 16 grains.

Dissolve in a wine-glass of water, and take at one dose. If the patient does not find rest and sleep in one hour, repeat the prescription.

Sometimes it is better to give 20 grains of chloral at the first dose. Often such treatment will afford the patient from five to eight hours' sleep; he then awakes free from headache and nausea. The disease sometimes appears to be hereditary, several members of the same family being subject to frequent attacks. It is a disease of early adult and middle life, usually disappearing after 40 years of age.

DYSPEPSIA-a chronic affection-is characterized by distention of the stomach and bowels by gas, and consequent uneasiness and pain, with an oppressive sense of fulness; frequent regurgitations of fluid from the stomach which has either a salty, insipid or acid taste. Sometimes it is acrid and intensely disagreeable. This regurgitation is commonly known as water-brash. This condition is not unfrequently attended with a burning, painful sensation at a point where the œsophagus opens into the stomach, extending upward along the course of the œsophagus—a symptom commonly called heart-burn. Constipation is also generally present. Vomiting is rare. The gas in the stomach and bowels may be derived in large part from the fermentation of undigested food, but it is certain that in many cases it has its origin in a disordered state of the nervous system. Dyspepsia is attended with depression of spirits. This is greatest when the stomach and bowels are most distended by gas, and is never seen, I believe, unless accompanied by more or less distention. This state of depression, carried beyond a certain point, eventuates in a form of mental aberration known as hypocondriasis (vulgarly called hypo), or even melancholia. We have in mind a night-watch in, a public hospital, who was subject to attacks of rapid accumulation of gas in stomach and bowels, attended with considerable pain. Notwithstanding the frequency of the attacks and the always happy termination within an hour or two, his memory and experience seemed of little use. He always believed that he was within a few minutes of death, and that the Lord had made this special visitation upon him as a punishment for his sins (although he was not noted for this sort of religious faith at other times), which he would proceed to confess, and which were ridiculous trivialities: he had failed to be polite to some one, or he had reported some employe for neglect of duty, or some other equally trivial fault, or even a virtue, which at these times he would distort into a fault. He was no coward, but a brave, courageous and sensible young man. As soon as the pain and distention was relieved, these melancholy delusions appeared as ridiculous to him as to his physician, although the experience was of no possible aid to his reason on the next occasion.

Prof. Austin Flint, of New York, is authority for the statement that "in a large proportion of cases, dyspepsia originates and is perpetuated by mental causes. It is induced and kept up by anxiety and depression. In the first place it is produced by mental causes, and then the dyspepsia reacts upon the mind,

increasing its morbid condition. Most cases show the affection to have been preceded by mental inquietude of some sort. Persons who are constantly anxious about something, such as acquiring success in life, getting out of debt, securing independent positions, or imaginary troubles, are those who are prone to the disease. The disease is most frequent from early adult to middle life, during the time when anxieties are greatest."

The Treatment.—The scope of this article will not permit more than to indicate the general character of the treatment to be employed. First, attention should be given to the mind. The patient should be made to understand that his gloomy foreboding regarding his health has no foundation in fact; that his anxiety constitutes his dyspepsia, and that there is not another such a father of "the blues" as "wind on the stomach." Exercise is a good thing, but if ordered to take it at stated times without any other purpose than treatment, it will fail of its best results by keeping the mind of the patient upon himself and his dyspepsia. He should have a change of scene—should go where new objects will engage his attention and take possession of his mind. Nothing is better than foreign travel. Objects of interest engage his mind, and he forgets nimself. He finds it impossible to stick to his brown bread and limited variety of foods (which he has had cooked in a particular way for years, perhaps, under the delusion that he could not live if he should dare to go beyond his self-imposed restrictions), for it is not to be obtained. By his exercise and cheerful interest in what is novel to him, he becomes hungry and indulges freely in the variety of table fares which he finds at the various hotels, and he soon learns that he suffers no inconvenience from whatever he chooses to eat, so that often a few months' travel is sufficient to permanently dispel the delusions and cure the most chronic case of years' standing.

There is no more prevalent American fallacy than the notion that one should not sleep soon after eating—the notion that, no matter how hungry one may be, he must not eat before retiring. This notion is not held by any other nation in the world, and how it became so prevalent here, it is difficult to account for. Those people who eat the largest meal at from 7 to 9 o'clock in the evening, and perhaps take a luncheon the last thing before retiring, and who require, consequently, a very light breakfast, are far less frequently attacked by dyspepsia than those who exercise after eating.

As regards diet, the patient should take in sufficient quantities and great variety all kinds of nutritious food. Milk and nice, tender meats of all sorts should particularly be largely eaten. Pastry, sweets and sugars had better be discarded. Ripe fruit is very useful, and generally any article which the appetite craves—roast pork, or oysters, or melons, or even the infamous cucumber, if called for by the appetite—will do good and not harm.

Medicinal remedies are useful in relieving some of the symptoms. The regurgitation of fluid from the stomach, water-brash, and the heart-burn, may be relieved by moderate doses of subnitrate of bismuth.

The distention by gas and the constipation are best relieved by an enema, which should be retained for fifteen or twenty minutes. The patient should drink a great deal of fluid—milk and water. Water should be taken in large quantity between meals—not until an hour after or half an hour before meals. A movement of the bowels every morning should be sought directly after breakfast. Every effort should be made to induce this habit. A glass of cold water directly upon rising will be useful in this regard. A general tonic will be found most useful, and should be occasionally changed for another. Among the best may be mentioned quinine, in two-grain doses; compound tincture of gentian, in teaspoonful doses, and tincture of nux vomica, in fifteen-drop doses.

Polyphagia-Excessive Appetite-Gluttony.

POLYPHAGIA is characterized by a voracious appetite, and the ingestion of enormous quantities of food beyond the demands of the system. Sometimes the capacity of digestion is increased in these cases, which leads to excessive accumulations of fat, and to fatty degeneration of the heart and other organs. In the sense in which the term is used, it implies a disease. It is sometimes observed in cases of mental derangement. The excessive craving for food may be diminished by the use of opium in some form. Recovery is to be expected.

Polydipsia-Excessive Thirst.

POLYDIPSIA is a very rare disease. It consists in an excessive craving for the imbibition of enormous quantities of water. The quantity of urine voided is proportionately great, is pale and limpid, with nearly the specific gravity of distilled water. It contains no sugar or other abnormal constituents. There is no other evidence of disease. The patient drinks several gallons of water daily. A young man, a patient in a public asylum, in excellent physical health, developed this curious affection. As soon as the fact was discovered, an investigation was made by confining him to his room, where he was permitted to have all the water he desired, all of which was carefully measured to him. The amount drunk during the day was fourteen quarts. The urine voided during the same time was also measured, and corresponded precisely to the water drunk-fourteen quarts. The next day he was permitted to have only a pint and a half of fluid-half a pint with each meal. The third day he was also restricted to a pint and a half of fluid, and the urine voided during the third day was precisely the same as the water taken—a pint and a half. Recovery in this case was complete, without other treatment than restriction in the amount of water drunk. The symptoms shown during the excessive water-drinking were indifference and excessive laziness. Now, after three years, there has been no recurrence of the symptoms.

Dipsomania.

DIPSOMANIA is the term used to express a morbid craving for alcoholic stimulants. The habit may be developed through dyspepsia or other disease of the digestive system. We have in mind a pitiable case of a lady who developed the habit through efforts to get relief from a distress which afterwards proved to have been caused by a tape-worm. The desire for drink in some of these cases assumes the nature of the delusions of insanity. In such cases it is useless to reason with the patient, and the only certain hope of relief is by placing the patient in some institution, where stimulants will be withheld and suitable medicinal and hygienic treatment can be enforced. The patient

should reside in such an institution long enough to have the physical health fully restored and the morbid appetite quite fully overcome.

Inanition—Starvation.

INANITION.—To preserve the health and strength it is absolutely necessary that food should be supplied in generous quantity and variety. There is no one article of food which contains all those principles which are necessary to the perfect nutrition of the body; and among the first organs to suffer for lack of proper nutrition are the organs of digestion. Every one knows the pain and exhaustion produced by a single day's abstinence from food. Especially is this excessive if work has been necessary in addition to the abstinence from food. Now, we have very little to do with cases of famine, or starvation by shipwreck. If our assistance could be made available in such cases, we should not need to seek the advice of a physician; but the first move of the best informed as well as the most obtuse person would be to supply proper food. How differently even the best informed often treat the sick of their own families, not knowing what is best to do. In a fever of whatever kind, the tissues are being far more rapidly oxidized or burned up than in health, as evidenced by the great heat of the body and the rapid loss of weight. Under such circumstances, the patient, to keep up the loss, really requires more food than in health, and yet how often he is deprived of food entirely for days together, with the idea of "starving a fever." It is the patient, and not the fever, that is being starved. The tissues of the body are being rapidly consumed, and if food is not furnished to rebuild these tissues, the patient must die from exhaustion. If a well person even were put to bed, and there kept practically without food, and scarcely permitted water, for three or four weeks, as many typhoid-fever patients are, a very large proportion of them would die, and it would be plain that such a person had been starved to death. Many a fever patient has been starved to death who is said to have died from fever. Many a dyspeptic continues ill for years because he restricts himself ignorantly to too small a quantity or to too small a variety of food. Patients with cancer of the stomach, or ulcer of the stomach, or chronic diarrhoea or dysentery, and many other diseases of the digestive organs, generally die of starvation. The prime object, then, in all such diseases, is to supply such food as can be digested and taken into the blood, in the greatest possible variety, and in such quantities as will repair the waste by disease. Either an insufficient quantity or variety of food is certain to be followed by disease. Disease and pestilence always follow famine. Certain diseases, as scorbutus (scurvy), are developed for want of variety of food.

Gastritis-Inflammation of the Stomach.

Acute Gastritis is a very rare affection. It seldom occurs except as the result of a wound or of some corrosive poison. Pain is intense; thirst is excessive; vomiting is frequent and very distressing. The vomited matters are at first of a greenish color; but if life is prolonged, in fatal cases, the vomited matters are black, with the appearance of coffee grounds. The surface is cold, and prostration is extreme. Besides poisons, the taking of large quantities of alcoholic stimulants without food may act as the cause of an attack. Death, in fatal cases, takes place in

from a few hours to a few days. Cases of this disease are so grave that a physician is always promptly called. The treatment will therefore best be let to his advice. When the cause is by a corrosive poison, the proper treatment will be found under the head of poisons.

SUBACUTE GASTRITIS, or catarrhal inflammation of the stomach, is much more frequent in infants than in adults. When it occurs in adults, appetite is impaired or lost; nausea and vomiting are very likely to occur; sometimes it is a very severe and persistent symptom. Thirst is very great, and cold water is craved. Headache is usually very great, and weakness and exhaustion keep the patient in bed. Many of the symptoms are identical with the disease already spoken of under the heads of acute dyspepsia and sick headache. The most prominent distinction is found in the duration of the attack, subacute gastritis continuing for from one to three weeks. The termination is almost always favorable; only very rarely, and in the most severe cases, when the symptoms approach those of acute gastritis, is there any cause for alarm concerning the termination of the case. The cause of the disease is not always clear. Among adults, those addicted to intoxicating beverages are especially liable to it.

Treatment.—The patient may, for a few days, be restricted to a milk diet. If the stomach is intolerant of food, enemas of milk may be given, half a pint at a time, and as often as once in three or four hours, until the condition of the stomach has improved. Small pieces of ice may be swallowed to relieve the thirst and the nausea. The following prescription will perhaps prove the most useful of any that could be taken to relieve the pain and vomiting:

Subnitrate of bismuth, - - - 1 dram.
Sulphate of morphine, - - 1 1/2 grains.

Make eight powders. Give one powder as often as necessary to relieve pain.

Neither emetics, cathartics nor laxatives should be used. If constipation exists, an *enema* or injection of warm water should be used to produce an evacuation.

CHRONIC GASTRITIS is a chronic inflammation of the mucous membrane of the stomach. It is sometimes very difficult to distinguish between chronic gastritis and the functional disease dyspepsia. If there is great thirst, tenderness and soreness at all times over the stomach, loss of weight, occasional vomiting, the symptoms point to gastritis rather than to dyspepsia, in which none of the above symptoms are prominent.

Many causes lead to the disease. Insufficient food is perhaps the most frequent cause.

Persons suffering from functional dyspepsia brought about by a nervous condition due to anxiety or depression, may, by limiting the quantity and variety of the food, bring about a real inflammation of the coats of the stomach. Remember that harm is always the result of severe so-called "dieting," that is, limiting the food taken to an insufficient quantity and small variety.

Another and almost as frequent a cause is, as in the subacute variety, the use of alcoholic stimulants. It is also caused by the continued use of arsenic, taken sometimes as a medicine, but more often to improve the complexion. Disease of the liver, by causing congestion of the stomach, also acts as a cause.

Treatment.—The food best adapted in cases of this sort is milk, bread, butter and eggs, beef extract, rice, corn-starch, etc. A change of scene, fair exercise, and recreation for the mind, are in the direction of the best results. As regards medicine, nothing can be better than the treatment recommended in dyspeysia.

Ulcer of the Stomach.

Gastric Ulcer is a tolerably frequent disease. It is also a disease of gravity and danger. The ulcer is of two kinds. One, known as the perforating ulcer, is small and deep, and affects chiefly young people—girls and young women with much greater frequency than young men. It is said that servant-girls are more often afflicted by this form of ulcer than others, although I can see no reason for this and doubt the fact. The other form is larger and not so deep. It may be as large as a silver dollar, or even larger, and people of middle age are more often the subjects.

The prominent symptoms are pain directly after eating, local tenderness on pressure, vomiting after eating, and hemorrhage or bleeding into the stomach. If blood is poured out into the stomach it is very likely to be vomited. If it is not vomited immediately it is turned black by the action of the gastric juice. From the fact that the matter vomited is black, without further examination it can be almost certainly relied upon as being blood. If vomited immediately that hemorrhage takes place, it will have the red color of blood. If the above symptoms occur in a young person, it is almost certain that ulcer of the stomach is the cause. Hemorrhage may take place into the stomach, however, without causing vomiting. But even without this proof, the other symptoms are usually sufficiently clear to render an opinion upon. In case of ulcer, pain occurs immediately upon introducing food into the stomach. In other stomach diseases (with the exception of cancer) the pain does not occur until some time later. If any considerable bleeding takes place and is not vomited, the patient shows the fact by weakness, paleness, prostration, thirst, and a peculiar throbbing of the arteries in the neck, caused by being only half filled with blood at each pulsation. If the patient is young we may be absolutely certain that the ulcer is not a cancer of the stomach (which, in many respects, has the same symptoms), for cancer rarely happens in young people. If the patient is of middle age, then we may not be able to decide the case at once, although the peculiar symptoms as regards the appearance, in addition to peculiarities in the character of the pain in a patient suffering from cancer, are usually sufficient to render an opinion tolerably safe.

In fatal cases death takes place by different ways. It sometimes happens that the vomiting of blood is the first symptom pointing to the disease. Hemorrhage sometimes is so great as to cause death. By the ulceration of a blood-vessel of considerable size, the patient bleeds to death. Another cause of death is by the ulcer perforating the walls of the stomach, thus permitting some of the contents of the stomach to escape into the abdominal cavity, and thus setting up an inflammation of the lining membrane of the abdomen (peritonitis, a very painful fever), which, when produced by this cause, speedily results in death. The other way in which gastric or stomach ulcer causes death is by inanition, or starvation. When food is

vomited as soon as taken, day after day and week after week, the patient rapidly loses weight, and if nutrition is not supplied in some other way, soon dies for want of food.

Treatment.—To stop hemorrhage, pieces of ice may be given to the patient to swallow, and cold may be applied over the stomach. If perforation takes place, nothing can be done. If vomiting is persistent, it is well not to give the patient any food by stomach, but give enemas of half a pint of good rich milk, beef-tea or mutton broth, and the white of eggs beaten up with the milk. This is for the purpose of giving the stomach a rest, and the ulcer, being thus left free from irritation, a chance to heal. This method of feeding has, in some cases, been kept up for two or three months at a time, with the best results.

Morphine and bismuth may be given, to relieve pain and vomiting. If food is given by stomach, it should consist principally of milk.

Cathartics or laxatives should never be given by stomach.. If at all, they should be given by enema. Usually enemas of water are all that will be required.

Cancer of the Stomach.

CANCER OF THE STOMACH is not a frequent disease. Simple ulcer of the stomach is far more common. Perhaps onethird of all cancers are of the stomach. The disease rarely occurs before forty years of age. It is most common between fifty and sixty. It is twice as common in men as in women. Sometimes there is considerable difficulty in finding out what is the matter. There is usually loss of appetite and loss of flesh, with weakness and exhaustion. There is pain in the stomach, which is increased after meals, and frequently vomiting also. Often there is a peculiar yellow complexion, which points to cancer as the cause. If these symptoms should occur in a young person, simple ulcer of the stomach is more probable. Sometimes a tumor can be felt through the abdominal walls over the stomach. If this can be done, and the other symptoms are present, there can scarcely be two opinions in the case. The loss of appetite, the cutting pains, the vomiting, the black, coffee-grounds-appearing substance (blood acted upon by gastric juice) in the vomited matter, indicate that the trouble is not dyspepsia. The pain of cancer is "cutting." Of simple ulcer it is described as "burning" or "gnawing."

The pain in cancer is more constant, while in ulcer it occurs more particularly after eating; vomiting more immediately after eating in simple ulcer. Hemorrhage is more frequent and greater in amount in ulcer than in cancer. A tumor is never found in simple ulcer, and is often to be found in case of cancer of the stomach. These things, taken in connection with the history of the case, are usually sufficient to decide the

Treatment.—There is no treatment that is of any avail in curing the disease. Remedies may be given to relieve pain, and life may be prolonged by careful attention to the nutrition of the patient.

Diarrhœa.

DIARRHŒA is an affection of the small intestines, and is due to many different causes. It may be temporary, lasting but for a few hours, or it may be chronic, lasting for months. It

may be caused by any trivial thing, as a slight change in the weather or some temporary indigestion, or may be a symptom of some grave or chronic disease, as typhoid fever, consumption or intestinal catarrh. There is one type which is probably due to disease of the pancreas, in which fat, in appearance like melted butter, is evacuated, which upon cooling over the stool gives it the appearance of being mostly fat. This form is of considerable gravity, and often proves fatal.

Diarrhoea occurs most frequently during the summer months. In September, when the weather suddenly becomes cooler, there are always a large number of cases.

Treatment.—If in the beginning of a diarrhoea the bowels are freely evacuated by some mild cathartic, nothing further is generally required. For this purpose a small dose of salts, or what is better, castor oil, may be taken. If the diarrhoea continues, twenty-five drops of laudanum may be taken every three to six hours. Or instead, five-grain doses of Dover's powder, or a sixth of a grain of morphine.

In case of chronic diarrhœa, more dependence for a cure must be had upon suitable diet. Those articles should be eaten which are principally or wholly digested in the stomach, and not those which are digested in the small intestine. Tender meats of all sorts are best digested; milk may be taken also, and ripe fruits. Vegetables generally should not be eaten. The food should be taken frequently, and a small amount at a time. If the patient lives in the city, a change should be made to the country. A malarious district should be avoided, and care should be taken as to dress. Woolen should be worn next the person at all seasons. Rest in bed is useful. Tonics should be taken—among the best are iron and quinine. Fifteen or twenty drops of laudanum may be taken when required to check the diarrhœa.

Summer Complaint.

Diarrhea occurring in young children, and prevailing during the warm season, is known as summer complaint. It is common during teething, and may begin in an acute attack of cholera infantum. It is a cause of great mortality among little children. In the large cities during certain months fully one-half of the deaths are due to this cause. The little patient should be removed to the country if possible. A spot should be selected that is free from malaria, that is cool and dry. Pure, fresh, sweet milk, together with lean, tender meats, rare done, or raw tender beef chopped fine and seasoned to taste, should be fed the child. Tonics may be given, and from twenty to sixty drops (according to the age of the child and severity of the diarrhea) of the camphorated tincture of opium (paregoric) may be given every few hours. Food should be taken often, and a small amount at a time.

Enteritis - Inflammation of the Small Intestine.

ENTERITIS, either acute or subacute, is very rare after the age of infancy. The diagnosis is not always clear, but diarrheea is always a sympton, and is generally in children classed under summer complaint or cholera infantum. The treatment advised under these heads should be employed. When occurring in adults, rest in bed is to be strictly enjoined, hot poultices or hot water dressing over the abdomen may be used,

and opium in some shape, laudanum or morphine, is to be given, together with quinine.

Dysentery -- Inflammation of the Large Intestine.

ACUTE DYSENTERY, or "flux," occurs in single, isolated cases, and as an epidemic. The disease is more frequent in hot than in temperate or cold climates. It is more common in the summer or fall than at other seasons. The inflammation is confined to the large intestine, and in many cases affects only a very small portion of it. The isolated cases usually end in recovery, although death sometimes results in the most severe cases. The epidemic variety, commonly known as the bloody flux, very frequently proves fatal.

The disease usually begins with loose passages having the appearance of an ordinary diarrhoea, but within a short time the character of the evacuations changes, showing a large amount of mucus, commonly spoken of as slime. Following this, very dark evacuations frequently take place, the color being due to blood, the red color of the blood being changed to black by the contents of the intestine. There is considerable griping and pain with a constant desire (called by physicians tenemus) to evacuate the bowels. There is more or less fever and weakness. Vomiting is also common.

In the epidemic variety the progress of the disease is much more rapid. All of the symptoms are exaggerated. The quantity of *slime* is more abundant; blood in its red color is evacuated, sometimes in considerable quantity. The fever is much higher, and exhaustion and prostration are much more marked. Death sometimes takes place within a few hours, and sometimes not until the third week. The great majority of cases recover. The disease may occur at any age, but is most common from thirty to forty years.

Treatment. - A full dose of castor oil or salts may be administered in the beginning of the disease, to remove all offending substances from the bowels. This is not to be repeated. The treatment from this on consists in efforts to support the strength of the patient and to limit the movements from the bowels. The patient should be kept quiet in bed, and should restrain a movement as long as possible. Meat broths and milk should form the chief part of the diet. Vegetables should not be permitted. Opium in some form, either as laudanum or morphine, or Dover's powders, should be given after every movement. It is well to introduce this medicine by injection or suppository if it can be so retained; otherwise it must be taken by stomach. If vomiting is present, efforts to relieve this must be made, directions for which will be found in this article, under its proper head. Quinine in four-grain doses should be given to keep up the strength. In malarious districts especially is quinine imperatively called for. Stimulants, as brandy or whisky or milk punch, should be given in all cases of great

CHRONIC DYSENTERY rarely occurs except as it follows acute dysentery. It is a very grave and most intractable disease. It may be difficult to determine whether a given case is chronic dysentery or chronic diarrhœa; that is, whether the inflammation is of the large or small intestine.

Treatment.—Enemas of warm water should be used after each movement, and immediately returned, the object being to

keep free from irritating matter the ulcerated and inflamed spots. Tonics must be given, and the diet should be most nutritious, and contain as little waste as possible to pass over the diseased parts. Opium should not be used except when especially indicated by pain, for the reason that it interferes with the appetite. The tendency of the disease is to progressive loss of appetite and flesh, and gradual decline, prostration, apathy and death from exhaustion.

Constipation—Costiveness.

CONSTIPATION, or costiveness, may proceed from a variety of causes. It is an affection of the large intestines, and is generally functional, i.e., it is not due to any organic change in the part. It is a very frequent, and is generally not at all a serious affection, although it brings about great discomfort, and may be the origin of dyspepsia, piles and various other troublesome diseases. It occasions headache, dulness of mind, palpitation of the heart, accumulation of gas in the stomach and intestines, colic pains, and sometimes diarrhea. Severe straining may produce great harm. Blood-vessels in the brain have been ruptured, and protrusion of the rectum has been occasioned by it.

It is caused most frequently by neglect to attend to the calls of nature when it is demanded, and both the sensation and desire after a time subside. It may be twelve or twenty-four hours before the call is repeated. Again it may be ignored, and again subside. In this way a habit is formed which becomes very troublesome, destroys one's comfort, and frequently, by interfering with digestion, undermines the general health. This habit of neglecting the calls of nature is brought about chiefly by two causes: the mind may be occupied and the patient driven with work. He will not take the time either to eat properly, or to visit the closet. But the far more frequent cause, in my opinion, especially in the country, is the neglect of people to provide themselves with comfortable closets, and sometimes not even uncomfortable out-houses. In winter, when the thermometer is from five to forty degrees below zero, with deep snow-drifts, and the wind blowing a gale, a trip to a stable, or to a cold out-house, through the cracks of which the wind drives a freezing blast, is indeed a dreaded experience. To bare oneself in such cold, and perhaps stop the wind out of the privy with a portion of one's anatomy, is not an experience that seeks frequent repetition. Again, when it rains in spring and fall, there is a dread of going out into the storm. And in summer the stench from the privy vault is often so offensive as to deter frequent visits. Thus, by these inconvenieces, people develop a habit of waiting as long as possible, frequently for days together, until a troublesome constipation is developed, which may be very difficult to cure.

Treatment.—Attention should first be directed to a cure of the bad habit of irregularity. The patient should go regularly every morning after breakfast, and take plenty of time to complete the act. Every house should have a comfortable closet, free from bad smells. If in the country where there are no sewers, and no closet is possible in the house, the privy should be well built, the outside well boarded up and battened and the inside lathed and plastered, so as to keep out the wind. A wooden box should extend up through the privy and open outside, so as to ventilate the vault, which should be often

cleaned out. A good board walk should extend from it to the house; then, if the house will keep an umbrella for rainy weather, the comfort and health of the family will be greatly enhanced, and the doctor's bills will be smaller.

Of course there are other causes, but, whatever they are, care should be taken to remove or avoid them. If constipation is only temporary, a laxative pill may be taken, or an enema of water. If, however, it be habitual or chronic, other means will have to be employed to cure it. The diet should be, in good part, articles which leave a large residue of undigested matter to be carried out of the body, such as vegetables, salads, cabbage, greens; or corn-bread, oat meal, cracked wheat, etc. A glass of cold water taken fifteen or twenty minutes before breakfast is often very useful. If medicines be taken they should be taken in small doses and frequently repeated, so as to bring about a regular habit. Free purgation should never be sought; much harm is done by it. A small pill of aloes, or of aloes and strychnine, which may be had at the drug stores, will be found very effective. One pill should be taken every night; sometimes one every night and morning may prove most effective.

Colic.

COLIC, strictly speaking, is a functional affection of the colon, characterized by spasmodic pains. It has, however, by common usage, been made to apply generally to all severe spasmodic pains in the abdomen. Thus it is applied to the pains in certain inflammations, as peritonitis, enteritis and dysentery, to the pain caused by the passage of gall-stones, and to that caused by the passage of small stones from the kidney into the bladder, as well as to certain neuralgias of the abdominal organs, as that caused by lead-poisoning. So the distinction are made by prefixing a word, as flatulent, or wind colic; crapulous colic, or that caused by indigestion, as in cholera morbus; hepatic colic, caused by the passage of gall-stones; nephritic colic, caused by passage of calculi from the kidney, and lead colic, caused by lead-poisoning.

For treatment of the colic of dysentery, peritonitis, cholera morbus and cholera, as well as of the pain accompanying the passage of stones from the gall-bladder and kidney, see the proper heads as above.

The pain in colic is caused by spasm of the muscular coat of the intestine. The object of treatment is to relieve this spasm. Some persons are subject to frequent attacks, which are brought about by slight causes. Constipation is a frequent cause.

Treatment should first be directed to the relief of the pain. Hot cloths placed over the abdomen, or cloths wrung out of hot water, will aid, and will sometimes alone fully relieve the patient. Various hot and stimuluting drinks are useful, but there is no remedy so absolutely certain of relief as some form of opium. Twenty-five to forty drops of laudanum may be given every half hour to an adult, either by injection or by the stomach, until relief is obtained. For children, a proportionate dose. For infants and children under four years, paregoric is safest. For adults, morphine may be given in quarter-grain doses, every half hour until relieved. If the patient is constipated, two or three compound cathartic pills may be taken, or

what is better, a large injection of warm water, so as to free the bowels. This, in most instances, will complete the cure.

LEAD COLIC is caused by poisoning by lead. The lead may be taken into the system by many different ways, without the knowledge of the patient. Persons manufacturing paints or working in shot-factories or other places where lead is used may be poisoned. Painters are very liable to lead-poisoning. Persons have been poisoned by sleeping in a newly-painted room, or by using certain face-washes and hair-dyes which contain lead, or by drinking water which has stood in lead pipes, or beer or cider which has been for some time in contact with a lead faucet, and by many accidental or intentional adulterations of food. Lead-poisoning is manifested by various affections of the nervous system, such as paralysis, as of the extensor muscles of the hand, and neuralgias, of which colic, or neuralgia of the intestines, is one.

The bowels are usually constipated. The pain is sometimes dull and heavy, and sometimes sharp and cutting. It usually comes on very gradually, beginning with slight pain, and grows worse until it may become very severe. There is seldom entire relief from pain, but there are periods of great increase, when the paroxysms are excruciating. If not relieved by treatment, the pain is likely to continue for days, and perhaps for weeks, and attacks will frequently occur. Persons do not die from lead colic, although they may from other effects of lead-poisoning. A blue line along the gums next the teeth is usually present in these cases.

Treatment should first be given as in ordinary colic. When the pain is relieved and the bowels moved, the following prescription should be taken, which will produce a permanent cure:

Iodide of potassium, - - - 1 ounce.

Distilled water, ad. - - - 1 ounce.

Dose: As directed.

The above is a saturated solution. Begin with five drops in a wine-glass of water three times a day after meals, and increase one drop each day until the patient is taking twenty-five to thirty drops three times a day.

Cholera Morbus.

CHOLERA MORBUS, or sporadic cholera, begins very suddenly by vomiting and colic pains. This is followed by purging and increase in pain and continued vomiting. The vomiting is sometimes preceded by a sense of weight and uneasiness in the stomach. If the vomiting and purging continue long, both the vomited matters and the dejections become entirely fluid and acrid. The skin is usually cool or cold; cramps occur in the legs and feet and in the abdominal muscles. During the interims between vomiting and purging, the patient is greatly prostrated and exhausted. The mouth is dry, and the patient suffers from great thirst.

The disease is more frequent in the summer months, and is more likely to occur at night than in the day-time. The patient usually recovers.

Treatment.—There is but one remedy worthy of mention in this disease, and that is opium in some shape. The injec-

tion of a solution of morphia under the skin is the best way to administer it. But none except physicians are possessed of the necessary instrument for this purpose. Therefore, if the method of administration given below should fail, by being vomited or evacuated before an effect can be produced, a physician should be called.

Half a grain of morphia should be taken dry on the tongue and dissolved in the mouth, and should be given directly after vomiting. If this is rejected, the dose should be at once repeated. If this is again rejected, it may again be repeated, or from sixty to eighty drops of laudanum may be given in two tablespoonfuls of water by injection. This should be given directly after a movement of the bowels, so as to have time to take effect before the next movement occurs. If this be rejected, the injection should be repeated.

To relieve thirst, small pieces of ice may be taken into the mouth, or a spoonful of water may be allowed every few minutes. Sometimes a very hot cup of tea, taken without milk or sugar, acts well in relieving the vomiting. The body should be wrapped in a warm blanket.

Cholera Infantum.

The affection treated of under this head is similar to the cholera morbus of adults, except that it is applied to children usually under two years of age. Unlike the disease in adults, where recovery is almost certain, in children under two years it is frequently fatal. Indeed, cholera infantum, together with the more chronic affection known as summer complaint, causes, in the large cities of the United States, nearly one-half the deaths during the hot season. Children of the poor living in crowded tenement-houses are more liable to the disease than others. Change of food, as in weaning, frequently acts as a cause. Children brought up on a bottle are especially liable to it. Doubtless poor, diluted, changed or soured milk is a cause. The greatest care should be taken to obtain fresh and pure milk for infants during these months. Unless there is urgent need in the interest of the mother's health, a child should not be weaned during the hot months.

The attack usually begins with vomiting and purging, which acts are frequently repeated. The vomited matters and the dejections are very fluid; pain, prostration and cramps ensue; the body is cold. If the purging and vomiting can be arrested recovery may quickly take place. If this cannot be controlled, however, the child rapidly fails, suffers from thirst and pain and prostration, aud in the course of two or three days goes into collapse and dies. It may, however, become chronic, an affection previously treated under the head of summer complaint, when the child, in unfavorable cases, gradually fails, becomes emaciated and dull, and finally dies of starvation.

Treatment.—When an attack begins the babe should be wrapped in a warm shawl or blanket. Twenty to thirty drops of paregoric should be given directly after vomiting. If it is rejected the dose is to be repeated. If this is again rejected or if relief does not follow, it is again to be repeated. Each time it should be given directly after the act of purging. If purging is not so frequent the medicine is better given by injection. Drinks of very warm tea may be given; let the tea be as hot

as can be well taken. A physician should be called if relief is not soon obtained.

The treatment for the chromic form will be found under the head of summer complaint.

Epidemic Cholera.

EPIDEMIC OR ASIATIC CHOLERA is a disease which seems to take its origin in India. There it exists sometimes in isolated cases, and sometimes as an epidemic. Frequently it leaves its native country, and makes trips over the entire civilized world, following the highways of travel and commerce. It first occurred in the United States in 1832; again in 1834. Again it took its origin in India in 1847, and reached this country in 1849, and prevailed here in 1850, '51 and '52. Beginning again in India in 1864, it reached the United States in '66 and prevailed somewhat in '67.

The pathology and cause of the disease are not well understood. But this much is quite well established: That it has a special cause, and that this special cause can be transported and reproduced in places where the conditions are favorable to its development—conditions similar to those where it first took its origin. That this special cause may be rapidly developed under conditions favorable to it; that it may be destroyed by disinfectants, and that it suddenly becomes inert, inoperative, or is carried away by causes not understood. There are many wellestablished facts concerning its communicability, which, however, are often apparently contradictory, and hence there are few physicians who do not hold in reserve or doubt any opinion which their experience has led them to entertain.

The introduction of cholera into New York in 1866 was not traceable to any particular emigrant passenger, nor any particular lot of baggage or goods, nor to any particular ship; but it followed the arrival of infected ships into the harbor.

The first cases occurred almost simultaneously, and in widely separated districts. This could hardly have been the case if the disease had been communicated from one person to another.

As the season advanced and cases became more frequent, the disease was found to prevail in certain low and insalubrious localities, while the rest of the city was almost free from the epidemic. These localities were widely separated.

There was no evidence that the disease was ever directly communicated from one person to another. Persons in the same house, and who waited upon the sick, were not more frequently attacked than other persons who resided in the insalubrious district, but at a distance from any case.

Where the epidemic has prevailed in Europe and in this country, no more than from one to ten in a hundred physicians and nurses who cared for the cholera patients had the disease. In the London hospital, out of one hundred persons employed in the cholera wards only five had the disease, and of eleven laundry-women encoloyed at the hospital to wash the soiled clothing and bedding of cholera patients, only one was attacked.

It is thought by some to have its origin in germs developed in the alimentary canal of cholera patients, which are further developed in the soil, the condition of which, as regards composition, temperature and moisture, must be favorable. This one, of all the theories, would best explain the phenomena as usually observed. In New York, for example, only in the low and unhealthy parts of the city did the disease make its appearance. Some cases occurred in persons after leaving these unhealthy districts for healthy ones, but none of these communicated the disease to persons living in the healthy district to which the patient had gone. The germs from the infected ships seem to have reached all of the infected districts at about the same time, and, it may be, could only become active by development in the soil peculiar to these districts, for the high and clean parts of the city never became affected.

In the great majority of cases cholera is preceded by a simple diarrhœa, which continues from a few hours to a week, in different cases, before the full development of the disease. This is not attended by pain and is usually considered by the patient as of no consequence. Vomiting during this stage rarely occurs. This diarrhoea occurs in not less than ninety per cent of cases. Suddenly the diarrhœa changes its aspect, and large watery evacuations take place. This marks the beginning of the disease proper. The dejections may be clear like water, or may be milky or muddy in appearance. Sometimes the dejections are very large, sometimes small. The act is not attended by pain. Gurgling sounds in the bowels are common. Vomiting is also a common symptom. The matter vomited is a watery liquid. As the disease progresses there is a sense of great prostration and weakness. The skin is cool. In some cases cramps occur in the muscles of the legs. If the disease pursues a favorable course, the vomiting and purging cease at the close of the stage of invasion, and the patient at once becomes convalescent, and in the shortest space of time is restored to his usual health.

If the disease does not end with the first stage, all the bad symptoms continue. The pulse usually is frequent and very feeble, ranging from 110 to 150 per minute. The surface of the body becomes cold, the lips and face blue. The breath is cold and the respiratory act is more frequent and irregular. The voice is feeble; the patient is indifferent and has no apprehensions for the result. The cramps in the feet and legs is the only pain suffered. Thirst is very great; the patient craves cold water. The face becomes so changed and old in appear-

ance as not to be recognizable. The patient may sink into complete collapse in from three to eight hours, in which state death usually ensues.

If the patient rallies from the state of collapse, he is likely to continue in a critical condition for some time before reaching convalescence. Diarrhea and vomiting frequently continue, the matters now being greenish yellow in color, and the patient may finally sink into a typhoid state and die. If recovery finally takes place, convalescence is generally slow, and the health is not fully restored for a long time. Exceptionally, even from the collapsed state, recovery rapidly supervenes.

PREVENTION OF CHOLERA.—Much may undoubtedly be done to prevent the disease by attention to cleanliness, and by disinfectants, and none of these things should be omitted.

There is, however, in nearly all cases, a premonitory diarrhoea, and if this be effectually treated there is little danger of the full development of the disease. Prudent and intelligent people who give prompt attention to any occurrence of diarrhoea during the prevalence of the disease rarely have cholera.

If the diarrhœa occurs in a young child, full doses of paregoric should be given every time the bowels move. If more than eight years old, full doses of laudanum should be given, together with acetate of lead and bismuth. For an adult, twenty-five to forty drops of laudanum, or, instead, one-sixth to one-quarter grain of morphine after every movement of the bowels. Small doses of red pepper, in addition to the opiates, are useful. The above treatment, taken in time, will prevent the further development of the disease in almost every case.

The treatment of cholcra, when fully developed, does not differ during the first stages from that recommended during the premonitary diarrhoea, except that the opiates should be given in larger doses. After collapse has taken place there is little that can be done with any hope of success. Sometimes active treatment in this stage does harm; it rarely does good. The body should be kept warm by the application of dry heat. The nutrition should be kept up, and brandy and water may be given frequently in small quantities.

-* THE CIRCULATORY ORGANS AND THE BLOOD.*

Absorption.

Under the head of "Physiology of the Digestive Organs" was described the elaborate process of the solution of the food. When this process has been completed, absorption takes place by the blood-vessels upon the walls of the stomach and small intestines, and by a special system of little vessels called lacteals, which open upon the intestinal walls. The solution of albuminous substances and the emulsion of fats must be perfect, or they will not be taken up. Whether they are taken up by the blood-vessels or lacteals, the product is emptied into the large veins. With the exception of that carried by the

thoracic duct, and one or two other lacteal trunks, the product of digestion, chyle by name, is carried, with venous blood, directly to the liver, where it is distributed to the liver cells in minute capillaries, and is here probably further modified, elaborated and refined, and also gains the substance glycogen, a liver sugar, and is then carried to the heart in the current of venous blood, and from the heart is sent to the lungs, there to be purified by the oxygen of the inspired air, and again returned to the heart, fit to be used in nourishing all the delicate tissues and organs, and in turn to be oxidized or burned and carried out of the body.

THE HEART AND BLOOD-VESSELS.

The heart is the central organ of the circulatory system. It is situated almost in the centre of the chest, between the right and left lungs. Its base is above and to the right, and its apex downward and to the left. It may be felt beating a little below and toward the median line from the left nipple. It is in size about as large as the closed fist of the person to whom it belongs. It is a hollow muscle containing four cavities, two of which are upon the right and two upon the left side of the organ; the heart thus being a double, or, indeed, two distinct organs, a right and a left heart, which, though bound together, are entirely distinct from each other, each having its own particular work to perform. The two cavities of the right side of the heart communicate with each other, as do also the two cavities on the left side. The openings between the cavities are guarded by valves, which permit the blood to flow only in one direction.

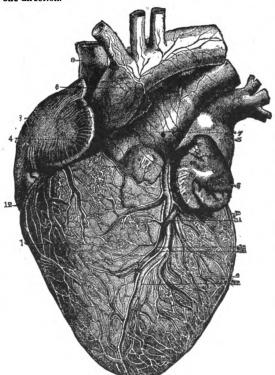


Fig. 4. The Human Heart.

Connected with each of the four chambers of the heart are large blood-vessels. The large veins (Fig. 5), the vena cava ascendens (1), and the vena cava descendens (2), bring the blood from all parts of the body to the right heart, and pour it into the upper chamber (3), which, from its fancied resemblance to the ear of a dog, is called the auricle. This upper cavity of the right side of the heart into which the vena cava empty, is known as the right auricle. It has very thin walls and serves only as a receptacle for the venous blood until it can be received

into the cavity below, which is called the right ventricle. As soon as the right auricle is filled, its walls contract, and the valves which guard the opening (5, 5, Fig. 6) are pushed open as shown in the cut, and the blood flows into and fills the cavity (6) of the right ventricle. The right ventricle thus being filled, its walls immediately contract, the movement of the blood closes the valves (5, 5) called the tricuspid valves, which guard auricular ventricular opening (4), thus preventing (as shown in Fig. 7), the regurgitation of the blood back into the auricle. At the same time it pushes open the valves

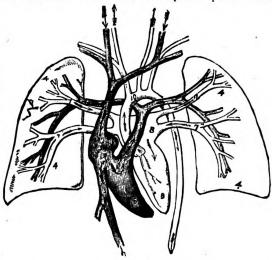


Fig. 5.

1, 2, Venæ cavæ, ascendens and descendens; 3, right auricle; 4, 4, 4, 4, lungs; 5, pulmonary artery; 6, right ventricle; 7, 7, 7, pulmonary veins; 8, left auricle; 9, left ventricle; 10, aorta.

(9, 9) called the pulmonary valves, which guard the entrance (7) into the pulmonary artery, so that all the blood in the right ventricle (6) is forced into the pulmonary artery (8), which leads to the lungs (4, 4), as shown by the black vessel (5) in Fig. 5, where it divides into a minute capillary network upon the walls of the sixty million air-cells of the lungs. In these capillaries the pulmonary veins begin by little rootlets which flow together, forming minute veins, and these unite to form larger veins, these again to form still larger, until the four (7, 7, Fig. 5) large pulmonary veins-two from each lungare formed. These bring back the purified blood from the lungs and empty it into the upper cavity (8, Fig. 5, or 14, Fig. 8), of the left side of the heart. From this cavity, by contraction of the auricular walls, the blood flows downward through the auriculo-ventricular opening (15), guarded by the mitral valves, into the left ventricle (16, Fig. 8), in the same manner as on the right side. As soon as the left ventricle is filled with blood, its strong muscular walls contract. The movement of the blood closes the mitral valves (15, Fig. 8), which prevents the blood from flowing back into the left auricle, and pushes open the semilunar valves (g, Fig. 9) which guard the entrance into the aorta, so that all the blood in the ventricle is sent into the aorta, and thence all over the body, with such force that all the larger arteries swell and throb as the

blood rushes through them. This throb of the arteries is called the *pulse*. Physicians make use of this knowledge to ascertain, in disease, how the heart is doing its work.



Fig. 6. Diagram of Right Side of the Heart.

1, 2, Venæ cavæ, ascendens and descendens; 3, cavity of right auricle; 4, auriculo-ventricular opening; 5, 5, tricuspid valves; 6, cavity of right ventricle; 7, opening leading to pulmonary artery; 8, pulmonary artery; 0, pulmonary valves.

The aorta (10, Fig. 5; 18, Fig. 8) branches and subdivides into a great number of largearteries leading to the head, arms, trunk, lower extremities and internal organs. These arteries again branch and subdivide a great many times, until they are reduced to only $\frac{1}{20000}$ of an inch in diameter. They are much smaller than the finest hair, and can be seen only by a magnifying-glass. They

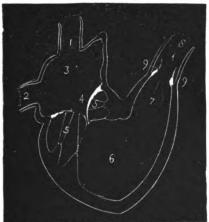


Fig. 7. Diagram of Right Side of Heart, with Tricuspid Valves Closed and Pulmonary Valves Open.

lie so closely together that the point of a needle cannot be thrust into any part of the body without wounding a greater or less number of them. The circulation of the blood in the capillaries may be beautifully seen by placing the web of the foot of a living frog under a microscope magnifying about 400 diameters, when all the little capillaries, with the blood-corpuscles rapidly coursing through them, may be seen, as in Fig. 11. If the frog

is not allowed to breathe for a moment the circulation in the capillaries stops, to begin again when respiration is resumed. In these capillaries the system veins begin by little rootlets which flow together into minute vessels, these into small veins, these into larger, and these again into still larger, until all are collected into the two great trunks, the venæ cavæ ascendens and descendens, which, as we have seen, empty the impure blood collected from the body into the right auricle of the heart.

The heart is enclosed by a serous membrane, the *pericar-dium*, which forms a kind of a double bag. The inner layer of the membrane is closely attached to the heart, the outer layer being free. Between the layers is a space, containing an ounce or two of fluid, which is secreted by the membrane to lubricate its surfaces, so that the movements of the heart will not cause friction and consequent inflammation.

The heart is lined by a delicate membrane, the *endocardium*, folds of which form the valves at the openings leading from the auricles into the ventricles, and from the ventricles into the arteries.



Fig. 8. Diagram of Right and Left Sides of Heart.

1, 2, 3, 4, 5, 6, 7, 8, same as Fig. 5; 10, pulmonary artery leading to the right lung; 11, branch of pulmonary artery to the left lung; 12, pulmonary veins from left lung; 13, pulmonary veins from the right lung; 14, cavity of left auricle; 15, left auriculo-ventricular opening; 16, cavity of left ventricle; 17, opening into aorta; 18, aorta.

The muscular walls of the auricles (Figs. 8, 9 and 10) are very thin. As they have little work to do, it is not necessary that they should be strong. The walls of the right ventricle (Fig. 10) are much thicker than the auricular walls, for the reason that it has to force the blood through the capillaries of the lungs, while the auricle has to force the blood into the ventricle only. But the walls of the left ventricle (h, Fig. 9) are much thicker than those of the right, for the reason that it has many times its amount of work to perform. The right ventricle has to send the blood only to the lung, while the left has to send it over the entire system—from the crown of the head to the tips of the fingers and toes, and to all the organs, the brain, liver, stomach, muscles and bones.

Diseases of the Heart.

The heart, in health, is a most wonderful and beautiful mechanism. It performs its work quietly and regularly, day and night, sleeping and waking, year after year, never stopping for a quarter of a second. But, like all parts of the body, it is subject to disease and injury, and, when out of repair, may cause the most distressing symptoms, and, not unfrequently, sudden death.

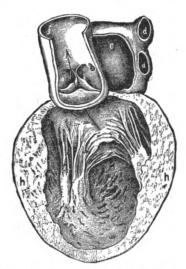


Fig. 9. Showing Right Side of Heart.

a, b, Columnæ carneæ; c, cavity of righ auricle; d, d, openings of pulmonary veins into left auricle; g, semilunar or aortic valves; f, aorta; h, h, muscular walls of right ventricle.

The diseases of the heart are many. The enveloping membrane, the pericardium, may become inflamed, when the disease is known as pericarditis, signifying "an inflammation around the heart." Or the lining membrane may become inflamed, which is called endocarditis (endo, within; cardium, the heart, and itis, inflammation), "inflammation within the heart." In consequence of pericarditis, the fluid around the heart may be greatly increased, so as to interfere with its movements. This is dropsy of the heart. Or the smooth surfaces of the pericardium or enveloping membrane may become agglutinated together, so that at every contraction the heart must lift the whole weight of the diaphragm. Or, from endocarditis, the openings between the cavities may be almost closed up, or the valves shortened or deformed so as not to close perfectly, and hence permit the blood to regurgitate, like the leaky valves of an old pump, which permits most of the water to flow back into the well, instead of raising it to the spout, no matter how hard one may work at the handle. A heart with the openings greatly contracted by disease may be likened to a pump with a spout too small. It is easy to understand how, if the openings of the heart are contracted, as they sometimes are, to the size of a goose-quill, or if the valves leak badly, permitting the blood to regurgitate, the work of the heart is greatly increased. If a schoolmaster should become a blacksmith, by work at the forge he would soon increase the muscles of his arms to double their former size. So, when by damaged valves or contracted orifices the heart is called upon to do more work, the first effect is to increase the thickness of its muscular walls. By this cause the heart sometimes becomes three or four times its normal size.

This condition is called hypertrophy. But there is a limit to muscular development, and after a time the walls begin to weaken and to dilate. They are no longer strong enough to force all the blood out of the cavity when it contracts upon it. More and more blood remains in the ventricle after contraction, until the day comes when, perhaps, in a moment of excitement, the ventricle becomes filled with blood, and, the muscle of the heart not being strong enough to force it out, there is a sudden paralysis of the heart from exhaustion of the heart muscle, and death immediately ensues, the patient suddenly falling down dead. Or the blood may be dammed back in the veins, because it cannot get through the heart. In this way death may take place from congestion of the lungs. When the lungs are congested, there is a great difficulty in breathing. This is a common symptom of heart disease. The blood may be dammed from the heart back into the veins of the trunk and lower extremities. When this is the case, the feet and legs swell, from the watery portions of the blood escaping outside of the vessels into the tissues. Sometimes the swelling is very great. There may be dropsy of the abdomen in consequence, or the liver and kidneys may be congested, and their functions impaired.

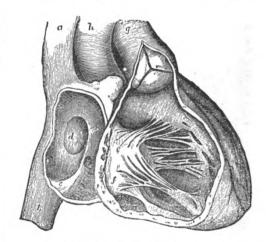


Fig. 10. Showing Right Side of Heart.

a, b, Venæ cavæ; d, left auricle; e, f, tricuspid valves; g, pulmonary artery; h, aorta.

Sometimes fat is deposited in the muscular fibre of the heart in place of the true muscular substance. This condition is known as *fatty degeneration*. It always greatly weakens the power of the heart, and its walls dilate. Sometimes the heart is paralyzed from this cause, and, occasionally, when one part is more degenerated than another, the walls of the heart may be ruptured by its own contraction upon a quantity of blood. Death in either case, of course, immediately takes place.

Palpitation of the heart is not a disease proper of the heart. It depends upon a derangement of the nervous system, just as a trembling hand or jerking eyelid is due to a fault of the nerves and not to any disease of the hand or of the eyelid. There is nothing dangerous in palpitation of the heart.

Neuralgia of the heart is a disease of the nervous system, and not of the heart.

Most lesions of the valves of the heart are caused by inflammation of the lining membrane, endocarditis, during an attack of inflammatory rheumatism. If the patient does not die during the time of the acute inflammation, he is likely to suffer from heart symptoms after a few years, by which time the valves become so deformed or the orifices so contracted as to interfere with the function of the heart, and the patient becomes aware, for the first time, of his condition. Valvular disease may have other causes than rheumatism.

Diagnosis.—A skilled physician is able, by percussing or tapping the chest wall, and taking note of the sounds thus produced, to say positively whether the heart is enlarged or not; and, by listening to the beating of the heart, he can tell certainly whether there is any leakage at the valves, and say with confidence which pair of valves are at fault, or whether there is or is not a contraction at any of the orifices. Where the valves leak, or the orifices are obstructed, there are certain hissing or blowing sounds, called murmurs, which, heard over different parts of the chest, and at different times with reference to the normal sounds of the heart, enable the educated and skilled physician to determine the character of the lesion, or to say that no disease at all of the heart exists.



Fig. 11.

Circulation of the Blood in the Foot of the Frog.

Treatment. — If one suspects, for any reason, a grave disease of the heart, he should go to some skilled physician in whom he has full confidence, and be examined. He will probably learn, as is generally the case, that there is no organic disease of the heart at all, and that the symptoms which occasioned the alarm, such as palpitation, are referable to a disordered state of the stomach or of the nervous system. The patient should not undertake to treat himself, if really suffering from valvular lesions of the heart, so that treatment had best be left to the physician whose advice is sought in the case.

Digitalis is, perhaps, the most valuable remedy which exists for strengthening the heart's action. The body should be well nourished, the food of good quality and variety, and the meals taken regularly. The bowels should be kept regular, and no very severe exercise should be taken. A gentleman, a patient of the writer, suffering from valvular disease, together with great enlargement and dilitation of the heart, came very near death every Sunday night on account of difficulty of breathing, due to congestion of the lungs, from damming the blood back into the pulmonary veins, the left heart not having strength to empty the ventricle. It seemed strange to the patient that the distress came only on Sunday nights, but upon enquiry it was found that on the six week-days he took three meals a day, and on Sunday but two, the last of which was about 2 o'clock p. m. The full power of the heart, when well nourished, was required, in its damaged condition, for the performance of its functions, and the abstinence from food for a few hours so weakened its action as to make death imminent. Sunday night suppers were ordered, and thereafter Sunday night ceased to be an especial dread.

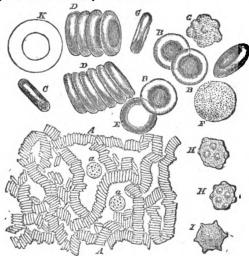


Fig. 12.

Red and White Blood-Corpuscles Highly Magnified.

THE BLOOD.

The blood is a compound fluid. In man, and all the higher order of animals, it is of a red color; in some of the lower forms of life it is colorless. The quantity in man is about one-eighth that of the weight of the body. The vessels of a man weighing one hundred and forty pounds would contain nearly eighteen pounds of blood. The office of the blood is not alone to carry nutriment to the tissues to assist in their repair, but is also to carry out of the body the products of waste—the ashes, so to speak, of the oxidized tissues which have been burned up or consumed in the production of force and animal heat. If a small part of a drop of blood be examined under a microscope, it will no longer present the appearance of a simple red fluid, but little circular bodies with a yellowish-red

tinge will be seen, and, if magnified two hundred and fifty times, will present the appearance shown in the lower part (A. A) of Fig. 12. These are the red corpuscles. They are little flattened circular bodies about 1200 of an inch in diameter, and not more than one-quarter as thick. It would take 120,000,000,000 of them to make a cubic inch. The flat surfaces are somewhat concave, so that the centre of the corpuscle is its thinnest part. If examined with a lens magnifying 1,000 times, the corpuscles will present the appearance of B, C, D in the figure. After standing a few minutes the flat surfaces of the corpuscles are inclined to stick together, and so arrange themselves in the form of a roll of coin (D, D). If treated with a drop of vinegar they become clear (K). If instead of vinegar a drop of water is added, they swell up (E), and become globular. If exposed to the air for a time, they become shrivelled (H, H) and irregular. In the lower part of Fig. 12 are to be seen two bodies (a, a) which do not look like the other corpuscles. They are larger in size, globular in shape, present a granular appearance, and are of a white color. They are known as the *white corpuscles*. Only one white corpuscle exists to four hundred of the red. The coloring matter of the blood is in the red corpuscles. When they are removed a clear fluid remains.

If a quantity of blood be drawn into a bowl from the veins of an animal, it will be, at first, quite fluid, but in a few moments will become thick like a mass of jelly. This mass is called a clot, and the process coagulation. If allowed to stand for a day or two the clot will continue to contract, and will be found at the end of that time in the bottom of the bowl, covered with a clear liquid called the serum.

If, as soon as the blood is drawn from the vein, it be whipped with a bunch of twigs, a white stringy substance, like the gluten obtained by washing flour, is found to cover the twigs, binding them together. This substance is called fibrin. Blood, subjected to this whipping, does not form a clot, for the reason that the coagulating substance, fibrin, has been removed upon the twigs. If this whipped or defibrinated blood be now permitted to stand, the red corpuscles settle to the bottom of the bowl, while the clear serum remains on top. These three constituents of the blood, fibrin, serum and corpuscles, are rendered plain to the sight, but they are made up of many other substances, such as albumen, fat, sugar, soda, salt, iron, lime, magnesia, water, carbonic acid gas, oxygen, etc., etc.

The serum and the fibrin are not separated in the living blood, but together form the *plasma*. The office of the plasma is to nourish and rebuild the tissues and to carry the products of waste and combustion to those organs—such as the liver, kidneys and skin—whose function it is to separate them

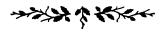
from the blood and carry them out of the body. The particular office of the corpuscles is to carry oxygen from the lungs to the tissues and carbonic acid gas from the tissues to the lungs, there to be exchanged for oxygen.

Diseases of the Bloud.

The plasma of the blood is replenished in its nutritive constituents by the food taken at frequent intervals. Water is necessary to render the blood sufficiently fluid, and to hold the other constituents in solution. The presence of certain chemical substances is also essential. Lime, iron, and certain other minerals, must also find a place. Besides these conditions, certain constituents manufactured in the body itself, as liver sugar and the corpuscles in normal quantity, are necessary to health. Water is more essential than food, and oxygen more than water. One deprived of food dies from impoverishment of the blood; if deprived of water, death takes place much sooner; but if deprived of oxygen, death ensues within five to eight minutes. About a ton and a half in the shape of food and drink is added to the blood of an ordinary man during the year. As there is the same amount of waste, a ton and a half of material, therefore, must be carried out of the body through the blood during the same time. Some of the products of oxidation, as urea and carbonic acid gas, are very poisonous to the nervous system. Certain organs, as the kidneys, skin and lungs, are designed especially to remove these poisons from the current of the blood, and carry them out of the body. If, through disease of these organs, they fail to perform their functions, the blood becomes highly charged with the poison, and, unless speedily relieved, death is the result. If the lungs fail to eliminate the carbonic acid, death results within a few minutes. If the kidneys fail to remove the urea, death must follow in a short time. The same is true if the skin fails in its office.

From the above it may readily be seen that the disorders of the blood are many. There may be too much blood, when the condition is called *plethora*; or too little, when it is called *anæmia*; or it may contain too much water, or too little; or too many red corpuscles, or too few; or the plasma may be deficient in tissue-building constituents; or the blood may be poisoned by the retention of carbonic acid and urea; or it may contain living germs.

Treatment.—A considerable quantity and wide variety of food should be taken regularly. A sufficient amount of water and fluids should also be taken. Frequent baths and a reasonable amount of exercise are advised. The sleeping-room should be well ventilated, and plenty of fresh air supplied. Where the blood disease is due to disease of some particular organ, the latter requires primary attention.



THE RESPIRATORY ORGANS.

It is essentially necessary to the life of all animals that the nutrient fluid should be carried to all parts of the system, and since the functional activity of the nervous and muscular tissues, and all tissues, is dependent upon their oxidation, it is also necessary that oxygen should be carried to and brought directly in contact with every fibre and cell in the whole body. This implies the introduction of air. It is necessary in every animal, moreover, to keep up the temperature or body heat to a specific point. This is also accomplished by oxidation or burning either the disintegrating material which is passing to waste, or the combustible substances, such as sugars and fats, found in the blood.



Fig. 13. Head and Gills of the Menobranchus.

As we saw in the early part of this article, all organic material, at its death and combustion, gives rise to two products, carbonic acid and water, and we have seen by experiment that these are the products alike of the burning candle and the oxidizing tissues of a living man. These products of combustion of the tissues are poured into the current of the blood. But the conditions of life are such that carbonic acid gas acts as a poison in the system, and means must therefore be provided for its removal. The introduction of life-giving oxygen into the system and the removal of the poisonous carbonic acid are accomplished by the same mechanism, the breathing apparatus.

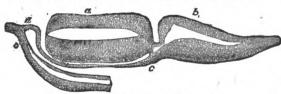


Fig. 14. Swimming-Bladder of the Fish. a, b, Air chambers; d, c, wind-pipe; o, æsophagus,

THE LUNGS.

The breathing apparatus, or mechanism by which oxygen is introduced into, and carbonic acid is removed from the blood, in all forms of life, consists of a thin membrane so arranged as to permit the blood to flow upon one side of it, while the other side of the membrane (which must be moist) is in contact with the air. The oxygen gas of the air, having a greater affinity or

attraction for the blood corpuscles than the carbonic acid gas, passes, therefore, through the thin membrane into the blood and displaces the carbonic acid gas, which passes out through the membrane into the air. The membrane, or breathing apparatus, in all cases, is the *skin*, or some extension, reduplication or modification of it, as the *mucous membrane*.

In the lower forms of aquatic life, and in certain worms, which are always moist, the skin serves the full purpose of lungs in purifying the blood, and no special organs of respiration are required. The moist skin of the frog is so delicate as to serve this purpose. We may remove its lungs, and it will continue to live and breathe, so to speak; the heart will continue to beat, and the blood to circulate and be purified so long as the skin is kept wet. But if allowed to dry, so that the exchange of gases can no longer take place through the skin, the animal soon dies "from the want of breath."

In fishes, the gills, which are covered by a delicate membrane, take the place of the lungs. There is a rich plexus of blood-vessels on one side of this membrane, while the other side is bathed in water. Oxygen is held in solution in the water, and is appropriated by the blood, while carbonic acid is exhaled through the membrane. Humboldt placed fishes in water which contained 20 per cent of air in solution, this consisting of 29.8 parts of oxygen, 66.2 parts nitrogen and 4.0 carbonic acid. After the fishes had remained in it a due time, analysis showed but 2.3 parts oxygen, while the carbonic acid had increased to 33.8 parts, showing the ordinary results of respiration.

In the menobranchus the gills (Fig. 13) are external feathery tufts on the sides of the neck. Each filament consists of a fold of Lungs of Reptile, mucous membrane connected with that of the pharynx, and contains a net-work of capillary blood-vessels. Respiration takes place as described in the above paragraph.

But the first approach to the true lung is seen in the swimming-bladder of fishes. In the carp there is, in its double-chambered swimming-bladder (Fig. 14), an approach to the double lungs of the higher order of animals. It is connected by means of a wind-pipe, d, c, with the esophagus, so that the fish is enabled at will to increase or diminish the amount of air in the chambers. While this is a rudimentary lung, its real use is to vary the specific gravity of the fish, by compression or rarification of the included air. As explained above, the gills in fishes fill the office of the true lung.



The lungs of the reptile present a sack-like form (Fig. 15). The two lungs are not equal in size, one, A, being fully developed, while the other, B, remains in a more or less rudimentary state. There is a pulmonary artery, cc, which brings the impure blood to the lungs, where it is broken up into minute capillaries and distributed over the walls of the membranous bag, where the blood is purified and sent through the pulmonary vein, d d, back to the heart. The air is taken into the sack through the trachea, a, by a kind of swallowing process, and is forced out again by contraction of the abdominal mus-



Fig. 16. Lungs of the Frog.

The progress from the simple sack, as shown in the swimming-bladder of the fish and the lungs of the reptile, to the million-chambered respiratory organs of the higher animals, is well illustrated in the lungs of a frog (Fig. 16), which has a number of imperfect membranous partitions dividing up the sack into many chambers, with the effect to greatly increase the respiratory surface. If the surface of the membrane forming the walls of the sack amounted to two square inches, the effect of the fifty or sixty partitions would

pe to increase the surface of the respiratory membrane to perhaps fifteen square inches, so that the lung with the partitions is

capable of purifying seven times more blood per minute than the simple sack without the partitions.

In man the trachea, or wind-pipe, divides into two bronchial tubes, one of which enters each lung, and then branches like a The terminal tubes are only about of an inch in diameter. Upon the sides of these minute tubes the air-cells open; sometimes single ones and sometimes many cells communicate with one another (Fig. 17). Such a tubelet, with the air-cells thus clustered upon it, is a miniature representa-

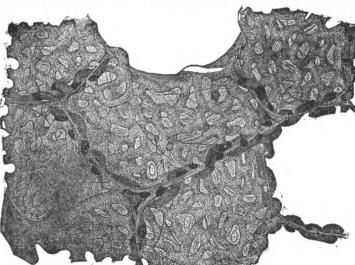


Fig. 18. Showing a Portion of Five Air-Cells, with the Capillaries Upon Cell Walls (Greatly Magnified).

tion of the lungs of the frog. The air cells vary in size from $\frac{1}{10}$ to 500 of an inch in diameter. It is said that each terminal bronchus has 20,000 air-cells clustered upon it, and that the total number in both lungs is more than 600,000,000, the walls of which, if united and spread out in one continuous sheet, would present a surface of 1,500 square feet. The cell walls are formed of an exceedingly delicate membrane, covered by the richest plexus

of capillary blood-vessels in the economy, which lie so thickly together that the spaces between them are less than their own diameters. Figure 18 represents five air-cells, with the capillary blood vessels distributed upon their walls. These capillaries are only 3000 of an inch in diameter, requiring 200 of them to equal the size of a cambric needle. As the cells are close together and the partition walls of incomprehensible thin-

ness, the little capillaries passing between them are brought in communication with the air on both sides. The blood corpuscles are obliged to pass through the little vessels in single file, and so, with air on both sides, they rapidly and completely exchange their poisonous carbonic acid gas for pure lifegiving oxygen, and change their color from blue to crimson. Then, by the contraction of the abdominal muscles, the chest walls, and the elastic walls of the air-cells themselves, the impure air is forced out of the body, and by a new inspiration the lungs are refilled with Air-Cells.



pure air. This in turn loses its oxygen to the blood, becomes impregnated with carbonic acid, and is expired, and the lungs

again refilled with pure air.

The Mechanism of Respiration.

The minute anatomy of the pulmonary lobule and the physiology of the respiratory membrane having been explained, it remains only to recite the gross anatomy of the respiratory organs, and the mechanism by which the lungs are filled and emptied of air.

The nose may be very properly considered the first of the respiratory organs. By its turbinated bones and the numerous cells connected with its cavity, a con-

siderable surface is produced, all of which is lined by the nasal mucous membrane; over this surface the air passes, and is warmed and cleansed from dust before passing into the lungs. At the entrance of the nostril are a number of stiff hairs, which act as a barrier to dust. Within the nose resides the sense of smell, which informs us of the quality of air we are breathing. The cavities of the nose communicate with the throat by two

openings. (See Fig. 1.) Except during the act of swallowing, the *epiglotis*, or lid which covers the opening into the larynx, stands wide open, as shown in the cut, while the gullet below the larynx remains closed, so that there is a continuous tube from the nostrils, into the lungs.

THE LARYNX is a kind of a triangular box placed at the top of the trachea, or wind-pipe, and is made up of rigid and unyielding rings of cartilage or gristle. The larger end of the larynx is placed upward, and across the superior opening are stretched four ligamentous bands covered by a most delicate mucous membrane. These bands are the vocal cords. The two upper cords are called the false, while the two lower bands are called the true vocal cords. To the vibration of these latter the voice is due. In front they are attached to a fixed point, the thyroid cartilages, which project forward on the neck, especially in men, and are called "Adam's apple." Behind they are attached to movable pieces of cartilage, which are controlled by little muscles, and can be so moved as to separate the cords from each other, as seen in inspiration (A, Fig. 19, or Fig. 22), allowing the air a free entrance into the trachea. In expiration the cords fall together, leaving only a narrow slit (B), through which the air passes out. When an attempt is made to produce a sound there is a great change in the conformity of the larynx; the vocal cords are approximated more closely together and put upon the stretch. The air from the lungs is then forced through the narrow slit, causing the free edges to vibrate, at the same time forcing them slightly apart in the centre, leaving a narrow oval slit, C, as shown in Fig. 19.

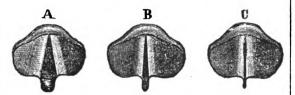


Fig. 19. The Vocal Cords.

A, as seen in inspiration; B, as seen in expiration; C, as seen while uttering a high-pitched sound.

Below the larynx is the trachea, a long air-tube, composed of rings of cartilage bound together by connective tissue and lined with mucous membrane. The trachea divides into two tubes called the *bronchia*, one of which leads to each lung, and there subdivides and branches like a tree into the ultimate bronchial tubules which open into the air-cells.

The lungs are contained in the cavity of the chest (A, Fig. 20). This cavity is separated from the cavity of the abdomen (C) by an arched muscle (B) called the diaphragm.

The lungs are placed one upon each side of the heart (Fig. 21). Each lung is enclosed in a double membranous sack called the *pleura*, one fold of which is closely attached to the substance of the lung, while the outside layer lines the chest wall. Between the two layers is a cavity which contains a little fluid called *serum*, which is secreted by the membrane, and serves to lubricate its surfaces, so that they glide smoothly over each other with every movement of the lungs. The right lung is divided into *three* (6, 7, 8) and the left into *two* (1, 2) lobes.

Movements of Respiration.

When the diaphragm contracts, it approaches a straight line across the body; at the same time the costal muscles elevate the ribs, which are also, because of their direction, carried outward. This increases the size of the cavity of the chest. The descent of the diaphragm increases the length of the chest-cavity, while the movement of the ribs increases its breadth. This causes a vacuum in the chest-cavity, and the outside air rushes in through the trachea and dilates the air-cells until the cavity is filled. This is known as *inspiration*. The diaphragm and costal muscles now relax, the ribs return to their place, thus narrowing the chest, while the abdominal muscles contract, forcing the stomach and liver upward against the diaphragm, which rises into its

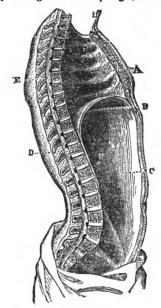


Fig. 20.

A, cavity of chest: B, diaphragm: C, cavity of abdomen. arched position, decreasing the length of the chest-cavity. These movements, together with the elasticity of the air-cells, force the contained air out through the trachea, emptying the lungs. This act is called expiration, which is followed by and alternates with the act of inspiration, and comprises the phenomenon of respiration.

DISEASES OF THE RESPIRATORY ORGANS.

Diseases under this head may be divided into those affecting the mucous membrane lining the air-passages, those affecting the serous membrane covering the lungs, and those affecting the substance of the lung itself.

Cold-Catarrh-Bronchitis.

CORYZA, or *cold in the head*, is an acute inflammation of the lining membrane of the nose. The eyes, in this disease, are also frequently inflamed and red, and the tears flow over the face. The symptoms begin with an itching or tingling sensation

in the nose, which is followed by sneezing. A slight fever accompanies these symptoms, and not unfrequently there is more or less headache.

Treatment.—Twenty or twenty-five drops of laudanum should be taken at bed-time, the first evening after the symptoms are noticed. Not unfrequently this will effect a cure. If not, another dose may be taken the following evening, and this repeated the next. If the cold is severe the laudanum should be taken night and morning until relieved. It is also well to take four grains of quinine night and morning. Instead of laudanum, one-sixth of a grain of morphine, or a full dose of Dover's powder, will serve the purpose equally well. Treated

in the beginning, nothing is surer than a perfect cure in from twenty-four to fortyeight hours, but if not effectually treated, it is apt to extend to the larynx and become a severe bronchitis, or eventuate in a chronic, low-grade inflammation of the nasal membrane, called catarrh.

Catarrh.

CATARRH is a name that properly applies to all inflammations of any part of the mucous membrane, such as catarrh of the stomach or of the bladder, but by # common usage, unless qualified by another word, has come to mean a chronic inflammation of the nasal mucous membrane. It is a very troublesome disease, and is often very difficult to treat. Patients are frequently seen who have suf-

fered from the disease for years. The inflammation is apt to 1 extend through the eustachian tube to the ears, and sometimes with not only the effect to impair the hearing, but to quite destroy it. The odor is, in bad cases, most penetrating, rendering the patient very offensive to his associates.

Treatment.—In the beginning the most effective treatment is that recommended for coryza. Later, tonics should be given. Quinine in two-grain doses, three times a day; laudanum in small doses and iodide of potassium in five-grain doses three times a day. In the beginning powders and solutions snuffed up the nose usually do harm, and it is a question whether they ever do good in any stage. The most effective treatment for a chronic case is, perhaps, a change of climate. The writer has known some excellent cures to result from a residence in Northern Wisconsin, or in the region of Lake Superior.

Acute Laryngitis.

ACUTE LARYNGITIS is an inflammation of the mucous membrane lining the larynx. It is attended with a cough and hoarseness, and frequently with much difficulty of breathing. The hoarseness is due to inflammation and swelling of the vocal cords. Medicinal treatment should be the same as that recom-

> mended for coryza. At night the throat may be bound with a bandage wrung out of cold water. Quinine should be taken in four-grain doses three times a day.

Disease of Vocal Cords.

It not unfrequently happens that speech, or the power of phonation, is lost in consequence of disease or injury of vocal cords, or of ulceration or swelling of the surrounding parts. Within the last few years a little instrument, called a laryngoscope, has been invented, by which a view of the larynx and vocal cords may be obtained. It consists of a little round mirror, about the size of a copper cent, fastened at an angle upon a small stem or handle. This is introduced into the mouth, as shown in

Fig. 22, the tongue having been drawn forward. Then, by the aid of a bright light, placed beside the patient, and reflected from a mirror worn upon the forehead of the physician, the rays are thrown upon the little mirror in the mouth of the patient, from which it is again reflected down to and illuminates the larynx, the image of which is reflected back into the little mirror in the mouth of the patient. In Fig. 22 the image of the larynx and vocal cords is shown as seen by the physician. By this means a physician skilled in the use of the instrument is able to examine an ulcer of the larynx as critically as he might a burn on the hand.

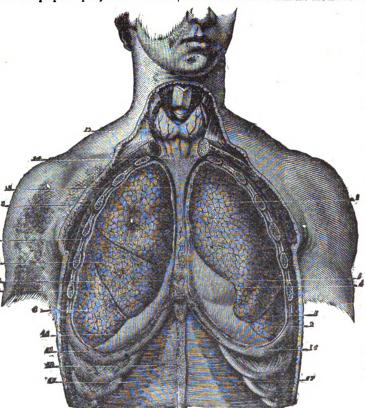


Fig. 21. Showing the Lungs in Situ.

1, 2, Upper and lower lobe of left lung: 6, 7, 8, upper, middle and lower lobe of right lung: 5, space occupied by the heart.

In case of loss of the voice, not clearly due to an acute *cold*, or in case of hoarsenesss of long standing, such an examination should be sought directly, lest the voice may become permanently impaired or destroyed. Sometimes one or both of the vocal cords may be paralyzed. As the symptoms may be due to different causes, it is best not to undertake self-treatment, but go at once to a skilful physician.

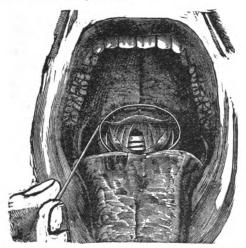


Fig. 22. Showing the Manner of Using the Laryngoscope, with the Image of the Larynx, Epiglotis and Vocal Cords in the Mirror.

Bronchitis.

BRONCHITIS is an inflammation of the lining membrane of the trachea and bronchial tubes. It may be either acute or chronic. If acute, there will be a slight fever and considerable cough. The treatment should be the same as that advised for coryza.

Chronic Bronchitis usually eventuates from an acute attack. The disease may be of years' standing. Those cases of death of elderly people from exhaustion, attended by cough and expectoration, and accredited to consumption, may usually be put down as bronchitis. Consumption rarely attacks persons after 40 or 45 years of age.

Treatment should consist partly in good living and warm dressing. Any of the bitter tonics, with iron, may be taken, together with some form of opium to relieve the cough. Iodide of potassium in five-grain doses, with two grains of carbonate of ammonia, taken after meals, will be found very useful.

Pertussis-Whooping Cough.

WHOOPING COUGH is an infectious disease, attacking the mucous membrane of the air passages. It attacks children, not exclusively, but chiefly. Among the first symptoms the child appears to have taken cold. Slight fever, suffused eyes, running nose and a cough make up the early symptoms. The cough is worse at night, and the temperature and pulse are higher. At this time there is nothing to distinguish it from an ordinary cold. This stage may last but a few days or be protracted over a period of two weeks, when these symptoms are changed for a distinct paroxysmal cough, having more or less of a metallic ring. The child makes a peculiar noise

during inspiration. There is more difficulty in inspiration than expiration during the paroxysm. The paroxysm over, the patient seems to be well. The number of paroxysms during twenty-four hours varies from ten to twenty in ordinary, to from seventy-five to one hundred in aggravated cases. During the cough the child becomes black in the face, and blood may be forced from the nose, throat or lungs, and at times from the ears. The little patient soon learns to dread these attacks, and seeks something to seize upon for support during the paroxysm. If lying in bed, he springs up and perhaps stands upon his feet, the tongue being thrust out of the mouth during the cough. The material expectorated is a clear, tough mucus. In young children the nurse will be obliged to remove this mucus with a handkerchief upon the finger. It seems sometimes as if the patient would die of strangulation before it can be removed. If the paroxysms are frequent the front teeth may chafe the under part of the tongue so as to form ulcers which greatly annoy the patient. An uncontrolable diarrhoea may set in, or the brain may become affected, when convulsions or stupor make their appearance.

Treatment.—Cough medicines as a general thing disturb the stomach without mitigating the cough. Small doses of the syrup of ipecacuanha may do good. The patient should be kept warm with good flannel underclothing. It is not advisable to keep him shut indoors, but if the weather is at all propitious, it is perhaps better that he should remain out in the fresh air.

Tonics are needed. Small doses of quinine or cinchona mixture will do good. Three or four drops of tincture of belladonna at bed-time may give the patient a good rest.

If the child has not been vaccinated, it will be well to vaccinate him, for vaccina seems to favorably modify the symptoms of whooping cough.

Asthma.

ASTHMA is caused by a spasm of the muscular fibres of the small bronchial tubes, which obstructs the outward flow of air from the lungs; hence the great distress for want of breath, and the loud wheezing sounds. The disease is of nervous origin, and is sometimes hereditary. It is generally worse at night.

Treatment.—There are many remedies which for a time relieve the bad symptoms, and a change of climate is almost always attended by relief. An attack may be brought on by any irritating smoke, or vapor, or dust contained in the breathingair. The emanation from a feather pillow is sufficient in some persons to produce a paroxysm. The writer has found the following prescription of use in a greater number of cases than any other. It usually cuts short the attack within a few hours:

mer. It addedly cuts	SHOL	t the	accuck	** 10.	min a	icw nours
Iodide of potassiu	m,	•	-			90 grains.
Carbonate of ammonia, Syrup of orange-peel,		,	-	-	-	60 grains.
		2			-	I ounce.
Simple syrup,	-	-	-			I ounce.
iv						

Take a teaspoonful every two to four hours until relieved.

Pleurisy.

PLEURISY is an inflammation of the *pleura*, or the membrane which envelopes the lungs. It is usually confined to one side, the left more frequently than the right. Sometimes, though very rarely, both sides are attacked at the same time. The at-

tack begins with sharp pains in the side, and in the region of the nipple. Soon it becomes impossible to take a deep inspiration on account of the severe pain caused by friction of the two layers of the inflamed membrane. Considerable fever is present. Examination by a physician will be necessary to determine whether the symptoms are due to pleurisy or pneumonia.

Pleurisy is not usually a grave disease. The patient generally recovers within a few days. Sometimes, however, a great effusion of fluid takes place in the pleural sack, compressing the lung so that, if the fluid is not soon absorbed, the lung may become permanently disabled. Sometimes the effused fluid becomes purulent.

Treatment.—Strips of adhesive plaster, an inch wide and from fourteen to sixteen inches long, may be applied by sticking one end over the spine and carrying the strip around the body upon the affected side, to act as a splint, thus preventing any movement of the inflamed parts. A quarter of a grain of morphine may be given, or, instead, twenty-five drops of laudanum. This may be repeated every hour or two until relieved from pain. If effusion takes place the treatment should be left to the advice of a physician.

Pneumonia.

PNEUMONIA, lung fever, winter fever, or inflammation of the lungs, is an inflammation of the substances of the lung. But a single lobe of the affected lung is usually attacked. The disease rarely attacks both lungs at the same time. In such a case a double pneumonia is said to exist. The lower lobes (8 and 2, Fig. 21) are more frequently attacked than the upper (6 and 1) lobes.

An attack may occur at any season of the year, but the disease is prevalent in winter and spring. The attack begins with symptoms similar to those of pleurisy, congestion of the affected lobe rapidly supervening. The temperature rises, and the pulse beat and respiratory movements become more frequent. An exudation takes place into the air-cells of the affected lobe, completely filling them, solidifying the lobe and rendering that portion of the lung entirely useless. A very-high fever ensues, and the patient becomes dangerously ill, and may remain in a critical condition for several weeks. In unfavorable cases death results in from ten to twenty days, from exhaustion. Occasionally the inflammation involves both lungs, or more than one lobe if but one lung is attacked; under such circircumstances death may, in rare cases, result during the first or second day from suffocation.

Treatment.— In so grave a disease, a skilful physician should be called without delay, and his directions for treatment carefully followed. Good nursing is of great importance, and the most nourishing food must be given from the beginning, in order to guard against danger from exhaustion toward the close of the disease.

THE EXCRETORY ORGANS.

The name excretory is applied to those organs whose function it is to remove from the blood the elements of waste—the ashes, so to speak, of the oxidized tissues—which have been taken into its current during its passage through the capillaries. Besides the lungs, which act as excreting organs in so far as they remove from the blood carbonic acid gas and water, and the liver, which also eliminates from the blood certain poisonous excretions, there exist two other organs whose chief or exclusive function it is to purify the blood, by removing from its current the debris of the worn-out and oxidizing tissues. These organs are the kidneys and the skin.

The Kidneys.

The kidneys are two in number, placed in the abdominal cavity one on each side of the spinal column, on a level with the lower ribs. The kidney is shaped much like a lima bean. It is, in the adult, about four inches long, two inches wide, one inch in thickness, and weighs from four to six ounces. It is surrounded by a thick cushion of fat which protects it from injury. The concave margin, which presents a deep notch called the hilum, is turned toward the spinal column. At the hilum enter the blood-vessels and nerves and the excretory duct, called the ureter, which carries away the urine as fast as it is secreted, and empties it into the bladder, a membranous reservoir for holding it, until such convenient time as it may be voided.

On making a vertical section through the kidney (Fig. 23) from its convex to its concave border, it appears to be made up of two substances, an outside or cortical substance, and an inside or medullary substance. The cortical substance forms the greater part of the gland and occupies its surface. It is soft and dark-colored and contains numerous small red bodies, called Malpighian bodies, scattered throughout its substance. The medullary substance is of a pale red color and consists of thousands of little tubes arranged in pyramids (1 1, 2 2, 4 4, Fig. 23), called the pyramids of Malpighi. The little tubes, or urinary tubules, of which the pyramids are made up, are connected, one with each of the Malpighian bodies, from which they are gathered together in pyramids, and empty, by common ducts (5, 5, 5, 5), into a cavity (7) shown in the cut, and known as the pelvis of the kidney, from which the ureter (8) conducts the urine away to the bladder. Figure 24 shows the Malpighian bodies (1, 5, 6) greatly magnified; 3 is a branch of the renal artery, from which little branches (4, 4, 4) enter the little bodies and break into minute looped capillaries (5), which again unite, forming a vein (7, 7, 7), which passes out of the little body, branches and subdivides (8, 9), and finally again breaks up into capillaries (10) to nourish the substance of the kidney. From the Malpighian bodies extend the little tubes (2, 2, 2), which finally unite to form the pyramids.

It is in the Malpighian bodies and in the little urinary tubules that the urine is separated from the blood. The capsules of these little bodies, Mr. Huxley says, may be likened to a funnel, and the membranous walls of the little capillaries to very delicate filtering-paper, into which the blood is poured. A substance called urea, the ashes of the oxidized muscular tissue, and certain saline substances, among which are common salt and the phosphates and sulphates of potash, soda, lime and magnesia in solution, are filtered out of the blood, carried away by the little tubules (2, 2, 2) to the pelvis of the kidney, from which it flows through the ureter into the bladder, and

Fig. 23. A Longitudinal Section of the Kidney. 1, 2, 4, Pyramids of Malpighi; 7, cavity of the pelvis; 5, 5, mouths of the urinary tubules; 8, the ureter.

thence out of the body. Thus the function of the kidney is to purify the blood, by removing those poisonous elements of waste which cannot be removed by the other excretory organs.

DISEASES OF THE KIDNEYS.

The kidney is liable to disease, inflammation and degeneration, the same as other parts of the body. Anything which interferes with the proper secretion and elimination of urea by the kidney may properly be considered a disease. Sometimes irritation of the nerves of the kidney is sufficient to stop the secretion of urine for a considerable time. Mental emotions may diminish or increase the secretion. It has long been observed that the urine of an hysterical patient is excessive in amount and of a very pale color. During a fever the urine is small in amount and of a very high color. This is due to the great evaporation which takes place from the skin in consequence of the high temperature. Almost all the diseases to which the kidney is liable have been classed together and called Bright's disease, so called because Dr. Richard Bright first

described one type of inflammation of the kidney, and almost all knowledge subsequently gained regarding diseases of the kidney, in which albumen is excreted, has been included under that name.

An inflammation may be either acute or chronic; may be confined to the *pelvis* or to the *urinary tubules*, or the substance of the kidney may be inflamed. An acute inflammation may cause death within a few days, or it may become chronic, or complete recovery may take place within a few weeks. A chronic inflammation may last for many years. Where the kid-

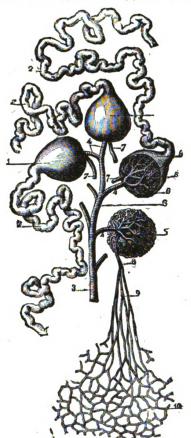


Fig. 24.

1, 6, 5, Malpighian bodies; 2, 2, 2, urinary tubules; 3, renal artery; 4, 4, 4, branches of renal artery; 5, 5, plexus of looped capillaries; 7, 8, 9, veins and venous plexus.

neys are so much diseased as to fail in removing the urea from the blood, nervous symptoms and convulsions rapidly supervene, caused by uremic poisoning. The kidneys failing in their duty, the stomach attempts to perform the work of the kidney; urine transudes into the stomach, and vomiting is set up. The vomited matter has a strong ammoniacal smell like urine.

Treatment. — Where disease of the kidney is suspected a skilled and educated physician should be consulted. By an examination of the urine, he can ascertain whether or not a

sufficient amount of urea is being eliminated, whether nutritive constituents of the blood are being lost in the urine, and by the use of the microscope can tell, by the presence or absence of epithelial casts, whether the urinary tubules are diseased or not. Do not begin taking quack patent-medicines before you ascertain whether or not any disease exists. If disease of the kidneys is suspected, because of pain in the back, the chances are ten to one that no disease whatever of the kidneys exists. The trouble is, in nine cases out of ten, due to the muscles of the back, which may be affected with rheumatism or neuralgia, or simply strained. The writer has known a number of patients who supposed they were suffering from kidney disease because of backache, which was in reality caused by sleeping in an uncomfortable, sagging bed. With a new bedspring, the backache and supposed "Bright's disease" disappeared. Certain quack patent-medicines have obtained a popular reputation by the fact that many people, who never had any disease of the kidneys, have recovered from a backache while taking the medicine; the cessation of the backache being in no way more dependent upon the medicine taken than upon the water drunk during the time. Pain in the back is not a symptom of kidney-disease. Swelling of the feet, dropsy of the face or loss of strength is most often the first symptom noticed by the patient, indicating that he is out of health. Not unfrequently failure of sight is the first symptom observed. The treatment should be left to the advice of a physician.

THE SKIN.

The skin is a hard, firm, elastic membrane which covers the body and serves to protect the soft parts from injury. It is also an excretory organ, exhaling, as it does, a large portion of the fluids given off from the body, besides being the chief means of maintaining the animal heat at an equable point. The skin is composed of two layers. The deeper one is called the derma, or true skin, and the outer layer the epidermis (Greek; epi, upon, and derma, skin). The derma is composed of strong elastic and inelastic fibres interiaced with each other; between the fibres in some parts is found much adipose, or fat tissue. In its substance are found also the sweat glands, sebaceous glands, hair follicles, lymphatics and nerves. The epidermis has no fibres, but is composed of several layers of cells placed one upon another. In the deepest of these is the pigment or coloring matter upon which depends the complexion. The hair and nails are appendages of the skin, and are but a modified form of the epidermic cells.

At the root of each hair is a little gland, sometimes two or more, called a sebaceous gland, which secretes an oily substance which lubricates the hair and surface of the skin. Coiled up in the deepest part of the true skin, or beneath it, are little tubes, which pass up through the entire thickness of the skin and open on the surface. They are called sudoriparous or sweat glands.

There is a constant exhalation from the skin, generally not visible, when it is called *insensible perspiration*. When visible, it is called *sensible perspiration*, or sweat. The *skin* excretes, perhaps, more water than the kidneys, amounting to between one and two pounds daily. Other excretions are also eliminated

by the skin, so that it becomes one of the most important organs of the body.

Diseases of the Skin.

It is beyond the scope of this article to consider the rarer diseases of the skin, or to more than indicate the character and simpler means of treatment of the more common affections.

At one time most of the skin diseases were thought to be constitutional, and that the eruption was caused by attempted elimination of the poison. It is now known that most of the skin diseases are of local origin. A certain class are caused by vegetable parasites; another class by animal parasites; others by the local effects of heat or cold, or by the irritation of mechanical or chemical agents; others are in a measure dependent upon the general health, and others to specific poisons, which include syphilis and the eruptive fevers. The eruptive fevers will be treated under the head of fevers.

Phthiriasis-Lousiness.

There are three distinct forms of pediculi, or lice, which infest the human body: the pediculus corporis, or body-louse; pediculus capitis, or head-louse; and the pediculus pubis, or crab louse. Low and filthy people may be infested with any or all of these forms. Cleanly and respectable people are, therefore, never affected by phthiriasis, or the lesions caused by these pediculi, for if they come in contact with filthy people infested with either variety, and should by accident get lice upon the body or head, the fact is soon discovered, and the body rid of them before sufficient time has elapsed to produce the characteristic lesions or wounds. The favorite seat of the body-louse is about the hips or shoulders. They are seldom found upon the body when the clothing is removed, but may be found in the seams of the under-garments, where they also lay their eggs. The head-lice, by their bites and by the excoriations caused by scratching, not infrequently cause an eczema of the scalp which sometimes eventuates in abscesses. The crab-louse may cause a considerable eruption over the parts of the body infested by it. It is a small red louse, very difficult to see. It clings very firmly to the roots of the hairs and to the skin by means of crablike claws. Like the head-louse, it deposits its eggs or nits upon the hairs.

Treatment.—In the case of phthiriasis from head lice, the hair of the head should first be thoroughly soaked in common kerosene oil, two or three times a day, and wrapped up in cloth for the first twenty-four hours. This will kill both the lice and their nits. It is never necessary to cut the hair. At the end of twenty-four hours the hair should be thoroughly washed, and the excoriated patches may be treated with a little oxide of zinc ointment. When caused by body lice the treatment is very easy. The clothing is to be removed and thoroughly boiled and carefully ironed, and a thorough bath given the body with soap and warm water. The excoriations readily heal.

The crab louse is more difficult to destroy. By a thorough application of one of the mercurial ointments, however, the object may be accomplished.

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Scabies-The Itch.

THE ITCH is quite a different disease from *phthiriasis*, although due to a parasite. It is caused by a minute insect, the *acarus scabiei*, which bores into and underneath the epidermic layer of the skin. A good idea of its appearance under the

microscope may be gained from the accompanying cut (Fig. 25). The female causes the eruption and itching by burrowing beneath the epidermis to deposit her eggs. The male is said never to penetrate the skin. The seat of the eruption is most frequent between the fingers, on the inside of the wrist and on the soles of the feet. Itching may be quite severe. It is a contagious disease, and is frequently contracted at school, where some unkept child introduces it. The disgrace attending it

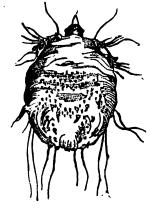


Fig. 25. The Acarus Scablel, or Itch Insect.

is such that it is becoming a rather rare disease.

Treatment.—First rub the patient all over with strong soap, and follow this by a hot bath, lasting an hour or more, after which rub him thoroughly with a sulphur ointment. The clothes are to be thoroughly boiled or baked.

Tinea Trichophytina—Ringworm.

RINGWORM is caused by a vegetable parasite. It begins by a small red spot, which enlarges with rapidity. As it increases at the border it heals in the centre. The margin is red and raised above the healthy skin. The centre of the patch is scaly and of a dirty yellow color. There may be several patches.

Treatment.—Red precipitate or citrine ointment well rubbed in will usually cure the disease.

Acne.

ACNE is a disease of the sebaceous glands at the roots of the hairs. There are several varieties, all of which consist of an eruption upon the face. The different forms are due to different causes, but in most there is a disturbance of the general health, frequently attended with dyspepsia and nervous derangements. A very common variety is the acna puncta nigra, or little black specks over the noseand face, due to little plugs of sebaceous matter in the ducts of the glands, the projecting end becoming blackened by a collection of dust. Another variety consists of little white specks in the region of the eyes, consisting of sebaceous matter beneath a very thin layer of skin. Other varieties consist of inflammation surrounding the gland, causing hard indurated nodules as large as half a pea.

Treatment.—The general health should be built up. If dyspepsia and constipation exist, remedies should be employed for their cure. The local treatment of the disease should be left to a physician.

Eczema-Salt Rheum.

ECZEMA is, perhaps, the most common of all skin diseases. It occurs at all periods of life. It is non-contagious and may be either acute or chronic. It may make its appearance upon any part of the body, although it is most common upon the hands, feet and scalp. Eczema has been called a catarrh of the skin. It begins generally by itching and burning, redness and congestion. Vesicles or pustules may appear. There is, in all cases, an exudation, and crust or scales are formed. Infiltration sometimes takes place, followed by fissures or cracks. Itching is a prominent symptom. The most varied appearances present themselves in different cases, but the essential condition is a moist surface upon which an exudation or scabbing takes place, which is attended by an unbearable itching, in comparison with which the itching of the itch is a most pleasant sensation. It appears upon the scalp and face of the infant, and spreads until sometimes the entire scalp and face are completely covered by the crust. The feet and hands of adults are the parts most affected.

Treatment.-Many cases of eczema are very difficult to treat. In acute cases the most soothing applications are best. The skin must be protected from the air. Both air and water are very irritating in cases of eczema. The oxide of zinc ointment is, perhaps, as soothing and valuable a dressing as can be used. In chronic cases the scales must be removed, and sometimes require rather severe stimulating treatment, even to scrubbing with a brush and soap. If this is done, the parts must be immediately dried and covered by a mild and soothing application. Water is to be avoided when possible. The different preparations of tar are most popular in the treatment of chronic cases. Attention must be given to the general health. Tonics are always required, together with cod liver oil. Starch and sugar should be avoided in articles of diet, and a large amount of fats taken. Any measure that will promote the general health is in the right direction.

Erysipelas.

A disease characterized by fever, with a local inflammation of the skin. The part inflamed is very red. The boundary-line dividing the healthy from the diseased skin is very marked.

Erysipelas may arise from two circumstances. It may be caused from a specific, contagious virus. When so arising it is called *idiopathic erysipelas*. It may be preceded by some wound, from which the inflammation radiates. Under this condition it is called *traumatic erysipelas*.

At times this disease is very contagious and very fatal. The inflammation may extend to the tissue beneath the skin, forming extensive abscesses. A large amount of connective tissue mortifies. There is a tendency for it to spread, principally on the surface, but it may involve internal organs, as the throat and the membrane covering the brain.

This is not a local, but a constitutional disease, and the patient is not protected against but rather more liable to future attacks.

A puerperal woman, coming in contact with erysipelatous virus, may contract some form of puerperal fever.

Treatment.—An erysipelatous patient should be kept by himself, especially away from wounded and puerperal patients. The inflamed skin may be bathed in copperas water or painted with the tincture of iodine. To prevent the inflammation from spreading, make a ring around it, upon the healthy skin, with nitrate of silver or collodion. Internally: tincture of iron in twenty drops, dose in water every two or three hours, and two grains of

quinine every hour or two. If the inflammation has extended to the parts beneath the skin, and the skin is tense, incisions should be made to relieve the tension and evacuate the pus. Poultices are of great service when there is a tendency to gangrene.

THE MUSCULAR SYSTEM.

In the preceding pages we have seen how new matter, in the form of food from the animal, vegetable and mineral kingdoms, is being constantly introduced into the body to supply the waste which is constantly taking place there.

To discover and appropriate these articles of food, to provide clothing necessary to sustain the temperature of the body, and to secure shelter, it is necessary that man be provided with power of locomotion, as well as power of movement of one part of the body upon another, as the arms upon the trunk and the fingers upon the hands.

This power of motion and locomotion is resident in certain organs, the *lean meat* of the body, called *muscles*. Muscles are of two kinds, voluntary and involuntary. The voluntary muscles are those which contract in response to the will, such

as the muscles of the face, arms and legs. The involuntary muscles are those whose contraction does not depend upon our wishes, such as the heart, which goes on contracting month after month, and year after year, sleeping or waking, never stopping while we live. It is estimated that during a life of eighty years it propels half a million tons of blood! Every muscle is a bundle of tens of thousands of fibres. These fibres are from $\frac{1}{800}$ to $\frac{1}{1800}$ of an inch in thickness, and are made up of hundreds of fibrillæ only $\frac{1}{28000}$ of an inch in diameter. The substance of these fibrillæ presents a peculiar striated appearance, due to the fact that they are made up of elongated bead-like nuclei.

Every fibre has the power, under certain conditions, of shortening its length, while it at the same time increases its thickness.

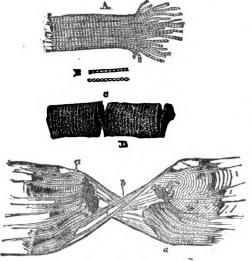


Fig. 26.

A, a muscular fibre breaking up into its fibrillæ; C, a muscular fibre breaking up into disks; D, a muscular fibre with contractile substance torn, and the sarcolemma still intact.

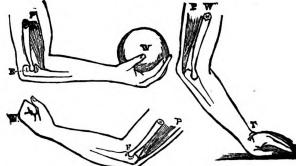
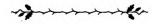


Fig. 27. Muscles of the Arm. - P, the power; F, the fulcrum; W, the weight.

This power is called *muscular contractity*, and when, in virtue of this power, a muscular fibre *contracts*, it tends to bring its ends together with whatever may be fastened to them.

The great majority of the muscles are attached to *levers*, which are the bones of the body. Figure 27 will illustrate the different kinds of levers described in mechanics, and sufficiently explain the movements of the different levers of the body upon each other.



-+THE BONES.

To give form and symmetry to the body, as well as to afford attachment and leverage to the muscles, by which locomotion is made possible, an essentially different tissue from any yet considered is necessary. This tissue must be hard, strong and unyielding, and so disposed as to form a frame-work for the support of the soft parts.

Such a frame-work we find in the skeleton, which is made up of bones of various sizes and shapes, and known as long, short, flat and irregular bones, and so disposed as to perfectly fulfil the offices for which they are intended. Some of the bones are designed principally for the protection of soft and delicate parts. Such are the bones of the cranium, which are immovably dovetailed together so as to form a strong box for the enclosure and protection of the brain.

Some not only afford protection to delicate organs and aid in preserving form and symmetry, but at the same time afford attachment for muscles, and thus aid in movements essential to life. Thus the ribs afford protection to the heart and lungs, maintain the form and symmetry of the chest, and afford attachment for the respiratory muscles.

The long bones are found in the limbs, where they form a system of levers, which, in the lower extremities, have to sustain the weight of the trunk, and, besides, confer the power of locomotion. In the upper extremities (Fig. 27) they are essential to those movements necessary in all manual labor.

The short and irregular bones are found where great strength and solidity are required. They are shaped also for the attachment of numerous muscles and for protection of certain delicate organs.

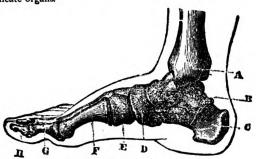


Fig. 28. A Perfectly Shaped Foot.

Bone tissue is the hardest structure of the animal body, and at the same time possesses a certain degree of toughness and elasticity. Every bone, be it long or short, is composed of what is called fundamental substance. It is a peculiar organic animal substance, called ostine, in combination with various inorganic salts, of which the phosphate and carbonate

of lime largely predominate. To the organic substance are due its toughness and elasticity, while to the inorganic salts must be credited its hardness and solidity.

If a bone be soaked in dilute hydrochloric acid for a time, its mineral constituents will be removed and the organic sub-

stance will remain in the shape of the original bone. This is no longer hard and unyielding, but is soft, pliable and elastic; and, if a long bone, it may be tied in a knot, as shown in Fig. 29.

If, on the other hand, the bone be burned for a short time in an open fire, the organic substance is consumed, and the mineral constituents remain, in which case the bone remains hard and in its original shape, but has lost its elasticity. It is now very brittle and easily broken.

The point of union between two bones is called a joint. Here the surfaces are coated with smooth cartilage and covered with a delicate membrane which secretes a peculiar fluid for lubricating the articular surfaces.

DISEASES OF THE BONES.

In children and young people the organic substance of the bones preponderates. The bones are, therefore, elastic

and very difficult to break, but are soft, and easily bent and deformed. Bow-legs may be caused by requiring a child to sustain the weight of its body upon its legs too early.

In old people the inorganic constituents of the bones preponderate, and therefore their bones are very brittle and easily broken. With them, great care against falling should be observed.

Rickets.

There is a disease of early childhood known as rickets, in which the mineral constituents of the bones are not deposited in normal quantity, and, as a result, the bones become very soft; and, by action of the muscles, they are bent into all sorts of deformed shapes. Thus result bow-legs, knock-knees, pigeonbreasts and deformities of spine and pelvis. Enlargement of the joints takes place; the head grows too fast and the face too slow.

The disease is usually caused by poor food and damp, unhealthy apartments. The little patient seldom dies, but generally becomes more or less deformed.

Treatment.-Correct diet, plenty of good, pure milk, sufficient animal food, and an abundance of fresh air. Give the





child cold sponge baths of short duration, and rub briskly with a towel. The child must be kept off its feet and required to sleep on a mattress. The limbs may require splints.

Deformities from Clothing.

Silly young girls—and most young girls are silly in matters of dress—deform their bodies for life by wearing corsets laced so as to compress the lungs and heart, and force downward the abdominal organs into unnatural positions, when, by the compression of the blood vessels, the organs of the abdomen and pelvis become congested, and conditions are developed from which they can never recover. The great regret is that so many of them remain silly, and that even mothers may be found as silly as the girls. Corsets which are used to destroy the vital organs of our girls are capable of doing vastly more harm than the little iron shoes which are used to destroy the feet of Chinese ladies, because of the greater importance of the organs involved. A young American girl would have no difficulty in seeing that the compressed and deformed baby foot of a Chinese lady is not

handsome, but it is really too bad that she cannot be made to see that her permanently deformed body, with her ribs all crushed in upon her vital organs, is not beautiful.

Deformed Feet.

But deformed feet are not alone found in China. American young men and young women will often wear shoes one or two sizes too short and with narrow toes, which pile the toes of the foot one on the top of another until the most terrible permanent deformities exist, and which, with corns and enlarged joints, cause the ugly shapes which we see in men and women. Besides the deformity and the excessive pain, the young lady or gentleman is unable to walk or dance, except in a hopping, most awkward way. The motive for this species of self-imposed torture is to be handsome and admired, but they defeat their purpose in making for themselves ugly, deformed feet, and substitute an awkward and stumbling gait for a grace and beauty of movement possible only with a well-shaped and unbound foot.

-*THE NERYOUS SYSTEM. *-

The parts and functions of the body which we have thus far considered stand in subordination to the wonderful system now to be examined. "It may truly be said," are the words of Draper, "that the position of any animal in the scale of life is directly dependent on the degree of development of its nervous system. Through this it is brought into relation with the external world, deriving sensations or impressions therefrom. Through this, also, all voluntary muscular contractions or movements take place."

Whatever the grade of intelligence may be, the degree of development or expansion of the nervous system is in close correspondence thereto, from the lowest conditions in which it is first making its appearance, in forms of animal life which are scarcely distinguishable from vegetable forms, up to its highest elaboration in the cerebro-spinal system of man.

The nervous system may be considered as of two portions, the cerebro-spinal system and the sympathetic system. The cerebro-spinal system consists of the brain, the spinal cord, and the nerves which proceed from them, together with their ganglia. The sympathetic system consists of a series of nervous ganglia placed on the posterior wall of the thoracic and abdominal cavities upon each side of the vertebral column, and of nervous threads or filaments which connect these together, and supply the walls of the blood-vessels and the internal organs. Comparatively little is known about the functions of the sympathetic system, except in so far as it may regulate the size of the blood-vessels; and, indeed, this action appears to depend upon the filaments received from the spinal nerves.

In both divisions are found two kinds of structure—fibrous and cellular. The latter are found in masses of greater or less size and of various shapes, and are called ganglia. The former, consisting of fibre, serve to connect the ganglia together and

to put them in communication with the integument, the muscles and all parts of the body. The function of the ganglia or nerve centres is for the reception of impressions and for the origination of motions. The cortex of the brain is the greatest of these ganglia in extent and in function. In this wonderful ganglion originates voluntary motion; here also are received, through the special senses, the impressions of external objects and circumstances, and from it originate the processes of intellection.

It would be beyond the scope and purposes of this article to recite the more minute anatomy of the nervous system, for to be of service to the reader it would necessitate space for explanation and illustration beyond the compass of the entire article. It will be sufficient to indicate the position and character of the larger organs which go to make it up.

The brain is that part of the nervous system contained within the cavity of the skull (Fig. 30). It consists of the cerebrum, cerebellum, pons varolii and medulla oblongata. Besides the protection afforded this delicate organ by the strong bony walls of the skull, the brain is enveloped by three distinct membranes. The outer one, called the dura mater, is thick and strong, and lines the bones of the skull. It dips down between the different parts of the brain, forming strong partitions, so that one part shall not press upon and injure another. Next beneath are two layers of a thin membrane called the arachnoid, or spider's web. This is a serous membrane, with functions like that covering the heart and lungs; it is covered with epithelium, and secretes a fluid, small in amount, which lubricates and serves in a measure, perhaps, as a kind of cushion to protect the brain from jars received by the body. Beneath this is a very delicate membrane, composed principally of minute blood-vessels. It is closely adherent to the substance

of the brain, dipping down into all the sulci, and even finding its way through the posterior fissures into the ventricles or cavities occupying the centre of the brain. Its use is to nourish the brain.

The cerebrum (C C) represents the principal mass of the brain. It is divided by a deep fissure, from before backward, into two lateral halves, called the right and left hemispheres. The two hemispheres are connected together at the bottom of the fissure by a large bundle of white fibres, called the corpus callosum. In the centre of each hemisphere is a large cavity called the right and left lateral ventricles. The surface of the cerebrum is composed of cellular gray matter and presents a convoluted appearance, as shown in Figure 30. This gray cellular matter of the surface of the cerebrum is the anatomical

substratum of the intellect. In that part of the surface of the hemisphere mid-way between the forehead and the back part of the head originates voluntary motion. One special function of the part just back of this seems to be the reception of impressions of external objects, brought hither by the nerves of special sense. The forward part of the hemispheres appears to be wholly for the purposes of intellection. By reference to Figure 30 the reader will observe a sharp point of bone in contact with the brain just back of and a little above the eye. From m. it extending upward and backward is a deep fissure, the fissure of Sylvius. Toward the front part of this fissure, and just above it, is a small convolution of gray substance called the third frontal convolution. The back portion of this convolution on the left side of the brain is the anatomical substratum of the faculty of speech.

When this part is destroyed all language is lost. Language, moreover, is never lost except by disease of this part.

The interior of the hemispheres is composed of white matter which consists of fibres connecting together different parts of the brain, and of fibres passing down into the spinal cord. The fibres are probably connected with the cells on the surface of the hemispheres, and after being gathered into a bundle pass down to other ganglia, there to be put in communication with the skin, muscles and viscera of the body. There are certain collections of gray matter at the base of the hemispheres, called the basal ganglia. Fibres from these ganglia unite with the fibres from the convolutions in two triangular-shaped bundles, the crura cerebri, one from each hemisphere, and pass down-

ward through the *pons varolii* into the *medulla oblongata* (m. ob.), as the oblong body at the top of the spinal cord is called.

The cerebellum or little brain (cb.) is situated beneath the posterior lobes of the cerebrum. It measures about three and a half by two and a half inches, and is about two inches thick in its thickest place. It weighs about five ounces, being only about one-eighth as large as the cerebrum. It is composed of gray and white matter, and, like the cerebrum, is divided into two lobes. Its functions are not well understood, but are, at least, related to the co-ordination of movements.

The pons varolii is a bond of union or bridge between the cerebrum above, the cerebellum behind, and the medulla oblongata below—being made up of fibres from these bodies and passing in different directions from one to another.

The medulla oblongata is the upper enlarged part of the spinal cord. It lies within the cranial cavity, and is connected with other parts of the brain by bundles of fibres passing upward through the pons varolii. It is composed of gray and white matter, but, unlike the cerebrum, the white matter occupies the surface, while the masses of gray matter are in the interior. From the medulla are given off all of the cranial nerves except two pairs, the olfactory, or nerves of smell, and the optic, or nerves of sight. These two pairs take their apparent origin at the base of the cerebrum.

The spinal cord is the continuation of the nervous matter from the me iulia down through the spinal canal. Were it not for the gray matter in its interior, which is a real ganglionic centre, it might be considered a great nerve trunk from which all the other nerves are but branches. The spinal cord, like

Fig. 30. The Human Brain. C, C, cerebrum; cb., cerebellum; m. ob., medulla oblongata.

the cerebrum, is divided into two lateral halves by a deep fissure in front and behind. The two halves are connected together in the centre, throughout the length of the cord. The surface of the cord, like the medulla oblongata, is composed of white matter. In the interior of each half is a crescentric-shaped collecsion of gray matter which extends throughout the length of the cord. The forward horn of the gray crescent is broader than the posterior horn, and contains some very large nerve-cells. These horns are called the anterior and posterior cornua. The centre of the crescent to which they belong is connected with the gray crescent of the opposite side by a band of gray matter. The white matter of the cord is made up of fibres which connect the gray matter of the brain with the gray matter

of the cord and with the ganglia on the roots of the spinal nerves.

There are thirty-one pairs of nerves given off from the cord, one pair passing out at each vertebral arch enclosing the spinal canal.

Each nerve arises from the cord by two roots, the anterior and posterior roots, which then unite to form a single trunk or spinal nerve.

If the trunk of a spinal nerve be irritated as by pinching, two things happen: in the first place, all the muscles to which its filaments are distributed contract; in the second place, acute pain is felt, and the pain is referred to that part of the skin to which the fibres of the nerve are distributed.

If the anterior root of the nerve be irritated in the same way, all of the muscles to which the nerve is distributed will contract, but no pain will be felt.

So, if the posterior root of the nerve be irritated in the same way, and the anterior root be left untouched, acute pain will be felt and referred to the whole area of the skin to which the nerve is distributed, but none of the muscles contract.

It is, therefore, clear that all the power for causing muscular contraction which a spinal nerve possesses is centered in the fibres which comprise its anterior roots, while all the power of giving rise to sensation resides in its posterior roots. The anterior roots, therefore, are commonly called *motor*, and the posterior roots are called *sensory*.

If the anterior roots of a spinal nerve be divided in a living animal, it is unable to move or contract the muscles to which the nerve is distributed, but every part of the skin remains sensitive to touch. But if the anterior root be left uninjured and the posterior root be divided, the animal will be able to move or contract all the muscles, but is unable to feel anything over any part of the skin to which the filaments are distributed.

By these experiments, then, it is clear that the anterior roots are composed of fibres which convey impulses *from* the ganglionic centres in the brain or cord to the muscles, causing the muscles to contract. It is also plain that the posterior roots are composed of fibres which carry impressions *from* the surface where they originate to the centres in the brain and cord.

Those nerves which carry impulses from the central organ to the periphery are called efferent nerves, while those which convey impressions from the outside to the central organ are called afferent nerves.

If similar experiments be performed upon the spinal cord, it will be found to act in many respects similar. If the cord be divided in the back, the animal will be unable to move the hind legs, and this part of the body will be insensible to pain, while all the parts forward of the cut will retain all the powers of motion and sensation.

If, by an accident, a man should suffer a similar injury, all of the parts below the wound would be paralyzed. The patient would be unable by his own will-power to move his legs; neither would he have any sensation in the parts. If he should be blindfolded, and the soles of his feet be tickled with a feather, he may jerk up his legs in the most violent manner, still he will not only know nothing of the tickling, but will have no knowledge of the jerking of his legs, for the reason that all impressions made upon his lower extremities are cut off from his brain,

which is the anatomical basis of his mind. He can make no intentional or woluntary movement of his legs for the same reason; his brain is cut off from the muscles of his legs at the point where the cord is cut in two. The movement in response to the tickling of the feather is very easily explained. The impression from the sole of the foot passes up by the sensory fibres to the gray matter of the cord, which, acting as a centre, originates there an impulse or stimulus, which, passing out over the motor filaments to the muscles, causes them to contract, thus giving the violent jerk to the legs.

The above is but an illustration showing that many of our common movements, such as walking, or any habitual and oft-repeated movement, may be executed without requiring the attention of the mind; some of the basal ganglia of the brain acting as a centre, and originating the motor impulses.

If not the whole cord, but only the anterior part, be injured, a paralysis of motion below the injury results, while sensation will remain perfect. If the posterior part be injured, on the other hand, sensation is lost while motion is unaffected.

If one lateral half of the spinal cord be divided, say on the right side of the body, the patient will immediately lose all power in the right leg, but sensation in the right leg will be perfect. He will, however, lose all feeling in the left leg, while the power of motion in this leg remains good. Hence, it must be true that the sensory fibres cross over from the side where they enter to the opposite side of the cord to pass up to the brain, while the motor impulses sent down from the brain must pass down on the same side of the cord by which they pass out to the muscles.

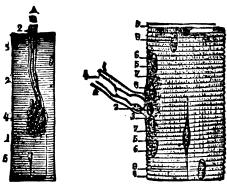


Fig. 31. Mode of Termination of Motor Nerves

A, primitive fasciculus of a muscle of the human subject; 2, nerve tube; 3, medullary substance of nerve tube; 4, terminal plate situated beneath the sarcolerma

If this be true, it follows that a longitudinal division down the centre of the cord throughout its entire length would destroy sensation on both sides of the body, without interfering at all with motion.

If, however, the longitudinal incision be carried up through the lower part of the medulla, paralysis of motion on both sides immediately results, for at this point all of the motor fibres from the right side of the brain cross over to the left side of the cord, while those from the left side of the brain cross over to the right side of the cord. NERVE ENDINGS.—The motor fibres of the spinal nerves originate in the anterior cornua of gray matter in the cord, and are believed to be intimately connected there with certain nerve cells, which are capable of originating motor stimulus. The distal end of the motor fibre passes through the sarcolemma of each muscular fibre and is brought into the closest relation with the muscular substance, as shown in Figure 31.

The sense of touch is possessed by all parts of the body, some parts more perfect than others. Wherever the sense of touch is delicate, the deep layer of the skin is raised up into little conical papillæ. Into these papillæ the terminal ends of the sensory nerve fibre enters. In certain localities, as the tips of the fingers, where the tactile sense is very acute, the

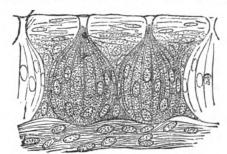


Fig. 32. Taste-Buds From the Rabbit.

nerve ending is enlarged in the papillæ, forming a little oval swelling called a tactile corpuscle. Filaments of the nerve of taste terminate in a similar manner in papillæ upon the tongue. Surrounding these papillæ are peculiar cells, or taste-buds, in which is supposed to reside the sense of taste. Figure 32 shows these taste-buds in the rabbit.

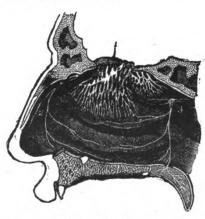


Fig. 33. Olfactory Ganglion and Nerves.

The endings of the filaments of the olfactory nerve, or the special nerve of smell, upon the delicate mucous membrane in the upper part of the nasal cavity, is beautifully shown in Figure 33. The termination of the auditory and optic nerves is explained in the chapter upon the special senses of sight and hearing.

DISEASES OF THE NERVOUS SYSTEM.

The diseases of the nervous system, as might be expected from its delicate anatomy and complicated functions, take a wide range, from the slightest twinge of pain in a minute nerve filament to total paralysis or hopeless insanity.

In all the graver manifestations of nervous disease, the advice of a physician skilled in the treatment of disease is naturally sought; this will render discussion of the more serious affections unnecessary. No class of diseases are more serious than those of the nervous system, and while it may be true that there is less tendency to a spontaneous recovery than any other class of diseases, yet it is also true that no class of diseases are more favorably influenced by proper treatment.

The chief symptoms of nervous disease are usually manifested either by pain, convulsions, paralysis, trembling, sleeplessness, imbecility or insanity. Two or more of these conditions may exist in the same patient. Pain is a symptom common to many diseases. The disease in which it constitutes the only symptom is

Neuralgia.

Pain may have its seat along the course of any nerve. It receives different names corresponding to the seat of pain. Thus we hear of *facial* neuralgia, *inter-costal* neuralgia, *occipital* neuralgia, *sciatica*, or neuralgia of the sciatic nerve, *gastralgia*, or neuralgia of the stomach, etc., etc.

The pain of neuralgia varies in different cases and at different times from a slight, dull ache to the most excruciating torture. The nerve which is the seat of the pain, in many instances at least, is in a state of inflammation. It is usually tender, as shown by examination, at points where pressure can be made upon the nerve, and following an attack there is usually a certain soreness and tenderness over the seat of the pain.

Treatment.—It is impossible in this article to give the space which the subject demands. The treatment embraces a large number of remedies and many methods of procedure. That which has affected a permanent cure in one case may have no effect in another. In some cases the pain is so persistent as to tax the physician to the utmost, who finds a remedy after having almost exhausted the pharmacopæia.

Some form of opium will always afford temporary relief if taken in sufficient doses, and it is one of the most valuable curative remedies in many cases. The patient is apt to be in poor flesh. In such a case, if a permanent cure is to be anticipated, the general health must be improved, and the body weight greatly increased. A method has, of late years, been very successfully employed in sanitariums, where the patient is required to take the necessary amount of rest in bed, to take a large amount of the most nourishing food, at intervals of only a few hours, and accompanied with baths, massage and suitable tonic treatment. By this means the body weight is greatly increased, the general health built up, and this is almost always followed by entire and permanent relief from pain.

Convulsions.

The term convulsion may be applied to an acute spasmodic contraction of the whole muscular system, as in infantile convulsions, or to an occasional paroxysm, as in an epileptic fit, or to the constant irregular contraction of certain muscles, as in chorea or Saint Vitus' dance.

Treatment.—In the case of infantile convulsions the child may be placed in a tub of warm water, and cold water may be poured upon its head. After the first paroxysm is over, the cause of the convulsion should be sought out. If due to dentition, or "cutting teeth," or to worms in the bowels, the proper remedy for such conditions should be applied. Paregoric or bromide of potassium will quiet the system.

In case of *chorea* the general health must receive attention. Quinine and iron will be found to be most valuable tonics. Malt or cod-liver oil is called for. A solution of arsenic, given in large doses, is perhaps the most valuable of all medi-

cinal substances in this disease, but should be given only under the observation of a physician.

Epilepsy.

EPILEPSY, or "fits," needs no description here, since there is no difficulty in recognizing the disease when it exists. If all cases of epilepsy could receive proper and thorough treatment from the beginning, I believe that in the majority of cases it could be cured, but frequently no physician is consulted until after a large number of paroxysms have finally aroused the friends to the danger. Even when advice is sought, treatment is seldom thorough or carried on for a sufficient length of time. In few cases should treatment be left off before the end of, at least, two years.

The treatment of benefit in the greatest number of cases is the bromide of potassium or sodium, together with tonic treat-

ment and a generous diet, sleep, rest and quiet. The bromide of sodium affects the stomach less, and, therefore, in most cases is to have the preference. It should be taken, according to the age of the patient, in doses of from two to ten grains, in a wine-glass of water, three times a day after meals.

Paralysis.

Paralysis may occur at any age, and is due to many causes. It may vary in extent from a single muscle, or group of muscles, to a loss of power over almost the entire body.

Paralysis may result from an injury to a nerve, in which case only the muscles supplied by that particular nerve are affected. It may result from an injury to or a disease of the spinal cord. In such a case the paralysis may be found on one or both sides of the body, or in only a single group of muscles, according to the seat and extent of the injury. But in every case the paralysis is always below the point of disease or injury of the cord. It may result from injury or disease of the brain, in which case the paralysis usually affects one entire side of the body, when it is called hemaplegia. When the disease or injury is upon the right side of the brain, the left leg and left arm are paralyzed; and when the disease is upon the left side of the brain, the paralysis is upon the right side of the body. This is explained by the fact that the motor fibres arising from one side of the brain

cross over in the *medulla* to the opposite side of the body.

Infantile paralysis occurs usually in children between one and four years of age. The child may be fretful and troublesome for a day or two previous, but frequently the first symptom noticed is the paralysis. This may occur in the leg or arm on the same side, or the leg on one side and the arm on the other, or both legs may be paralyzed and the arms not affected, or both arms may be paralyzed and the legs remain well; or only one leg or one arm may be the seat of the paralysis. The paralysis is due to an inflammation of the anterior cornu of the gray matter of the spinal cord, and the extent of the paralysis will depend upon the extent of the inflammation. The child will probably not die. Some of the paralyzed muscles will regain their

Fig. 34. Superficial Branches of the Facial and the Fifth Nerves.

7. Trunk of the seventh or facial nerve; 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, branches of the fifth nerve.

power. Others never will, but will waste away. The child will grow up more or less of a cripple. The treatment should be left to a physician.

In paralysis of the extensor muscles of the hand, due to lead-poisoning, recovery will take place under proper treatment. Remove the cause. If the patient be a printer or worker in lead, a change of occupation will be necessary. Iodide of potassium may be taken in ten-grain doses three times a day after meals in half a glass of water.

Hemaplegia, or paralysis of one side of the body due to injury or disease of the brain, may be caused by embolism or thrombosis (plugging of a blood vessel), thus cutting off nutrition from a portion of the brain, or may be caused by a hemor-

rhage into the substance of the brain or upon its surface, and thus, by tearing the nerve fibres, or by pressure, the function of the organ is destroyed; or paralysis may result from a tumor or an abscess in the brain, or from other causes. The results as regards the question of recovery from the paralysis will depend upon the exact seat and extent of the injury. The treatment should be left to the advice of a physician.

There are a great number of diseases which manifest strange symptoms, affecting both the motor and sensory nerves, but which would require the attention of a physician, and which would take up too much space to treat here.

Insomnia.

Insomnia, or sleeplessness, is a symptom common to many nervous diseases, and one which requires prompt attention, as without sleep little good can be accomplished in other directions by treatment. The treatment must depend very much upon the age, occupation and other circumstances of the patient. If in a child, out-door play at games requiring exercise sufficient to produce fatigue should be encouraged.

In men and women worried by business or domestic cares, disappointments or anxieties, the case is much more serious. If possible, they should, for a time, leave home and business, when they will often leave their worries, also, behind them. Mental labor should be abandoned entirely, and physical labor or sports requiring little thought, of a kind most comformable to the tastes of the patient, and affording the most pleasant diversion, should be chosen and followed to the point of fatigue. A generous diet of the most nutritious food should be taken, and a comfortable spring-bed, in a well-ventilated, cheerful room, should be provided. One of the bromides, with tonics, may be prescribed, together with meat and milk. In severe cases the hydrate of chloral, in from fifteen to thirty-grain doses, may be given at bed-time.

Insanity.

Insanity, the most dreaded of all the nervous diseases, is a mental symptom dependent upon a disease of the brain. It is

commonly classified according to the character of the delusions and conduct of the patient. Thus we have mania, melancholia and dementia. This classification is further divided into the acute and chronic of each class.

The cause of the disease is more often hereditary than otherwise. Aside from hereditary taint, general poor physical health, nervous prostration, anxiety and worry will rank next as causes of attack. Where a predisposition exists, the most trivial disorders and circumstances, which, in other persons, would be unfelt, may act, in these individuals, as exciting causes. Child-birth, typhoid fever, business failures, disappointment in love, religious or other excitement, and a hundred other things, may act as an exciting cause in a person of an unstable nervous system.

In the beginning of an attack there is usually lack of appetite, loss of weight, sleeplessness, constipation. If these symptoms were promptly relieved many cases of insanity might be averted.

Treatment.—After the disease is fully developed, if melancholy delusions are present, the greatest care and watchfulness should be observed to guard against suicide or self-injury. In case of violent mania, care is to be taken that no injury is done to others.

Prompt attention should be given to secure a movement of the bowels, to induce the patient to take a suitable amount of food, and to secure not less than eight hours' sleep during the twenty-four. If this cannot be secured at home, the patient should be sent to an institution where he can have the proper care, without a day's delay. The choice of an institution will depend upon the circumstances of the patient; if possible, an institution should be chosen where there are not too many patients, where individual care is certain to be given by physicians skilled in the treatment of such cases. If the patient is poor, he will have to be sent to a State institution, in which case avoid, if possible, a crowded ward. With the best treatment, from forty to fifty per cent of patients recover.



Anatomy.

The eyeballs and nearly all of their accessory parts are securely contained in two bony cavities called the orbits. These are shaped like four-sided pyramids, with their bases pointing forward and outward, and their apices backward and inward. They are about 13 inches deep, and their axes are inclined to each other at an angle of 42 degrees to 43 degrees. Each orbit has a roof, floor, inner and outer wall. The roof is very thin and separates the orbital from the cranial cavity. At its outer angle there is a depression for the lachrymal or tear gland, and another at its inner angle for the pulley of the superior oblique muscle. The inner wall has in front the lachrymal groove for lachrymal sac. The base or facial opening of the orbit has a

strong, bony edge, and is about 1½ in. wide, and 1¼ in. high. The apex is formed by the optic foramen and canal, which connects the orbit with the interior of the skull, and through which the optic nerve passes.

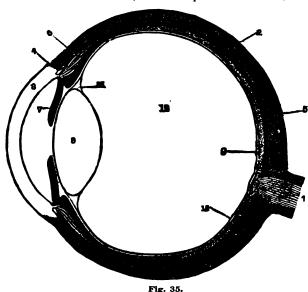
The orbits are lined by a vascular membrane, which nourishes the bony walls, and which is continuous at fissures and sutures with the *periosteum* of facial bones, and *dura mater* within the skull. It also forms a tendinous ring around optic foramen, giving origin to the ocular muscles.

Upon this membrane, or *periorbita*, and filling the space not occupied by the eyeball and its appendages, is found connective tissue and loose fat, which serve as a support to the globe and facilitate the various movements of which it is capable. The

connective tissue is thickened in places, forming sheaths for the muscles, vessels and nerves, and fascia for connecting the parts within the orbit with one another, and with the periorbita.

The optic nerves originate at the base of the brain, in the thalami optici and corpora quadrigemina, and receive filaments from other portions of the brain and spinal cord. From their origin they run forward as optic tracts until they unite just posterior to the optic foramina and form the optic chiasm, in which they decussate. The fibres of the inner side of each tract cross over to inner side of opposite nerve and supply the inner half of the retina on that side. The outer fibres of each tract pass directly, without crossing, to outer half of nerve and retina of same side. The optic nerves proper begin at the outer anterior edge of chiasm, and, rapidly diverging as they leave the cranial cavity, pass through the orbits to the eyeballs, which they enter about two lines within and half a line below the posterior pole.

The eyeball is situated in the anterior part of the orbit a little to the outer side of its axis, and about equi-distant from the



1, Optic nerve; 2, sclera; 3, cornea; 4, Schlemm's canal; 5, choroid; 6, ciliary body; 7, iris; 8, crystalline lens; 9, macula lutea of retina; 10, retina; 11, suspensory ligament and canal of Petit; 12, vitreous.

upper and lower walls. It is maintained in position by the optic nerve behind and the lids in front, and is further supported behind and on the sides by a cushion of fat. It is nearly spherical in form, but a side view shows it to be composed of segments of two spheres of different diameters. The anterior segment, which forms the transparent cornea, has the shorter diameter and is therefore more prominent than the posterior or scleral portion. The eye is longer from before backward than transversely, and is shortest vertically. The anterior pole is the geometrical centre of the cornea, and the posterior pole is the geometrical centre of the bottom of the eye. The axis is an imaginary straight line extending from pole to pole. The equatorial plane is an imaginary plane through the centre of the globe perpendicular to the axis. The equator is

the line where the equatorial plane cuts the surface of the eyeball. Meridianal planes are imaginary planes coinciding with the axis. Meridians are lines where meridianal planes cut the surface.

The eyeball has three investing membranes or coats which maintain its shape and enclose three transparent humors. The outer coat embraces the cornea and sclera, the middle coat the choroid, ciliary body and iris, and the inner coat is the retina. The humors are the aqueous, crystalline and vitreous.

The greater part (five-sixths) of the outer coat, commonly known as the "white of the eye," is called the sclera (from Gr. skleros, hard). It is very firm and elastic, nearly one-half a line in thickness behind, where it is re-enforced by the sheath of optic nerve, and gradually becomes thinner toward the anterior border, where it is only one-fifth of a line thick. The sclera is continuous in front with the cornea, being joined to the latter by bevelled edges, the outer overlapping the cornea more than the inner edge. The opening in the sclera

behind, for the passage of the optic nerve fibres, is partially closed by a few fibres from the sclera, which are joined by the sheaths of the nerve fibres, and together form a sieve-like membrane called the *lamina cribrosa*. Near the inner anterior edge of the sclera is a circular channel called *Schlemm's canal*. It encloses venous plexus, receives veins from sclera and ciliary plexus, and communicates with the anterior chamber and anterior ciliary veins.

The cornea (Latin, cornu, horn) forms the anterior one-sixth of the outer coat and is also very dense and elastic. It fits into the sclera very much as a watch crystal does into a watch. It is made up of five layers, viz.: the outer and the inner epithelial layers, the outer and inner elastic membranes, and the corneal substance proper. The latter embraces the bulk of the cornea, as the epithelial and elastic layers are very thin. The corneal substance is composed of elastic fibres, which are arranged into bundles, and these again into layers, whose general direction is parallel to the corneal surface. The spaces between the fibres, bundles and layers is filled by a cement-like substance, in which is a system of canals and spaces containing serous fluid, lymph cells and corneal corpuscles. The cornea, unlike the other coats of the eye, has no blood-vessels, except at its edge. where a very narrow zone of capillary loops is found.

It is sustained through the circulation of serum in the lymph channels. Nerves are freely distributed throughout, chiefly near the anterior surface in epithelial and elastic layers.

That portion of the middle coat which lines the inner surface of the sclera is called the choroid behind, and the ciliary body in front. The choroid extends from the optic nerve entrance to a line just anterior to the equator. The ciliary body extends from the anterior termination of the choroid to that of the sclera, where it joins the iris, with which it is continuous. The iris hangs like a curtain from the anterior edge of the ciliary body, floating in the aqueous humor. The choroid is composed chiefly of blood-vessels with connective tissue, pigment cells and a few muscular fibres. The ciliary body may be considered as a prismatic ring with a posterior, anterior

and inner edge. The inner edge gives attachment to the suspensory ligament of the lens. In the anterior outer portion is found the ciliary, or muscle of accommodation, the outer fibres of which are meridional and the inner are circular. The inner posterior surface is raised into from seventy to eighty folds, the ciliary processes. The iris has a central opening, the pupil, through which the light passes to the interior of the eye. The amount of light admitted is regulated by two muscles in the iris, one of which dilates and the other contracts the pupil.

The retina is attached to the inner surface of the choroid, and with it extends from the entrance of the optic nerve to the ora serrata. It has ten layers, but only two are of special importance, the others being accessory. The layer of rods and cones receives the images of objects viewed, and the layer of nerve fibres, which is an expansion of the fibres of the optic nerve, transmits the impressions to the sensorium, and is recognized as vision. The most sensitive part of the retina, the macula lutea, corresponds very nearly with the posterior pole.

The aqueous humor is a watery fluid which fills the place

between the cornea and crystalline lens. This space is divided by the iris into the anterior and posterior chambers, which communicate through the pupil.

The crystalline lens is a transparent double convex lens, situated behind the iris and between the aqueous and vitreous humors. It is enclosed by two structureless membranes, the anterior and posterior capsules, which are continuous, near the peripheral edge of the lens, with the zonule of Zinn, or suspensory ligament. Between the folds of the zonule and the border of the lens is a triangular space, canal of Petit, which is closed during life by the folds falling together. The anterior capsule supports the margin of the pupil unless the pupil be dilated, in which case the iris floats freely in the aqueous humor. The lens, though clear and apparently homogeneous in structure, is composed of flattened hexagonal fibres with dentated lateral edges, by which they are firmly joined together. The

convexity of the lens is greater on the posterior than on the anterior surface.

The vitreous body (Lat. vitreum, glass) fills the cavity within the retina and behind the lens. It is a structureless, gelatinous substance, possessing a refractive power less than the lens, but greater than the aqueous humor. During foetal life the hyaloid artery runs from papilla (optic nerve entrance) to posterior surface of lens, rudiments of which sometimes persist. The canal through which it passes is the canal of Cloquet, or hyaloid canal. The anterior surface of the vitreous is hollowed out for reception of the lens, forming the hyaloidea fossa. The vitreous has no vessels or nerves, and receives its nutriment from the retina and uveal tract (middle coat).

The eyeball is moved by six muscles, five of which take their origin from the tendinous ring around the optic foramen at the apex of the orbit. Four are called the *recti* (straight) mus-

cles. They pass directly from their origin, over the globe, and are inserted in the sclera near the corneal margin, one above, one below, one on the inner and one on the outer side. The fifth muscle, the superior oblique, passes to the upper inner angle of the orbit, then through a tendinous ring—the pulley—then backward and outward, beneath the superior rectus, to upper, outer and posterior quadrant of the eyeball, where it is inserted. The sixth muscle, the inferior oblique, arises at the inner lower angle of the orbit and passes outward, downward, backward, beneath the inferior rectus, then upward and backward between external rectus and globe, and is inserted close to the insertion of the superior oblique.

The superior rectus moves the eye upward and inward, and rotates it slightly inward. The internal rectus, the strongest, moves the eye inward, and the external moves it outward. The superior oblique moves the eye downward and outward, rotating it inward. The inferior oblique moves the eye upward and outward, rotating it outward. Three of the recti, the superior, inferior and internal, and the inferior oblique, are controlled in

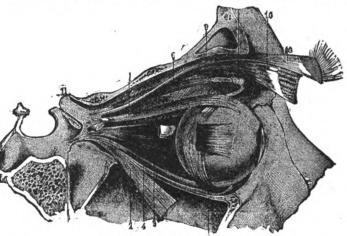


Fig. 36. Muscles of the Eye.

1, Inferior oblique; 2, ext. rectus; 3, int. rectus; 4, inf. rectus; 5, sup. rectus; 6, sup. oblique; 7, pulley of sup. oblique; 9, 10, levator palpebræ superioris; 11, optic nerve.

their action by one nerve, the third, or oculo motorius. The superior oblique is governed by the fourth, or trochlear nerve, and the external rectus by the sixth, or abducens. The third nerve also sends a branch to the ciliary muscle (muscle of accommodation).

There are certain appendages of the eye which serve either as a means of protection or aid in the performance of its function. Of these, the eyebrows, eyelids and lachrymal apparatus are the most important. The eyebrows are arched elevations of skin above the orbits, covered with rows of short hairs, and serve to protect the eye and to slightly influence the amount of light admitted. The eyelids are two movable folds of skin covering the eyes in front and closing the orbital entrance. The upper lid is the larger, measuring about four-fifths of an inch in height upon its inner surface. The lower is only about half an inch high. The outer or skin covering of the lids is continuous at

their edges with their inner mucous lining or conjunctiva (Lat., conjungere, to join together), which is reflected from the lids on to the eyeball, forming the retrotarsal fold of the conjunctiva, and joining the lids to the globe. Between the skin and conjunctiva the lids are composed of loose connective tissue, muscle, cartilage, ligaments, glands, blood-vessels and nerves. The so-called cartilages of the lids are not true cartilage, but consist of dense fibrous tissue. They are two in number, one in each lid. The upper is the larger, and is crescentric in shape. The lower one is elliptical. They serve to maintain the form of the lids and as points of attachment for ligaments which bind the lids to edge of the orbit, and the muscle which lifts the upper lid, the levator palpebræ superioris. This muscle arises just above the origin of the recti muscles and passes forward along the roof of the orbit to its insertion around the upper margin of the cartilage of the upper lid. It is supplied by the third nerve.

The muscle which closes the lids, orbicularis palpebrarum, arises from the edge of the orbit, near the inner angle of the opening between the lids, and its fibres pass around the lids, between the skin and cartilage, and unite at the outer angle. It is supplied by the facial, supra-orbital and superior maxillary nerves.

The eyelashes, or cilia, are rows of short, thick hairs on the free margins of the lids, those of the upper lid curving upward and those of the lower curving downward. Their follicles lie in the connective tissue upon the cartilage, and are connected with sebaceous glands which lubricate the cilia.

Imbedded in the cartilages are blind tubes into which open secondary follicles (thirty to forty in upper lid, twenty to thirty in lower). The tubes, meibomian glands, lie parallel and open in a row near the inner edge of the free border of the lid. They furnish a sebaceous secretion which lubricates the margin of the lids.

The size of the opening between the lids, palpebral fissure, determines the apparent size of the eye; a large opening allowing the globe to bulge forward and become prominent, while a small fissure prevents much of the eyeball from being seen. The angles formed by the margins of the lids at the extremities of the fissure are called the internal and external canthi.

The conjunctiva, when the lids are closed, form a shut sac, with its palpebral and ocular surfaces in contact. It forms a crescentric fold at the inner canthus—semilunar fold, or plica semilunaris. This is regarded as the rudiment of the third eyelid, or membrana nictitans, in birds. Lying upon the semilunar fold in the inner canthus is a small red body, the caruncula lachrymalis. It consists of hair follicles, sebaceous glands, connective tissue and fat, is covered by mucous membrane, and has a few fine hairs on its surface.

The lachrymal apparatus consists of a secreting portion, the lachrymal gland and conjunctival glands; and the conducting portion, canaliculi, sac and nasal duct. The lachrymal gland is almond-shaped and lies in a depression in the roof of the orbit at the outer angle. Its lower surface rests upon the outer part of the eyeball, and its longest diameter, the transverse, is about three-fifths of an inch. The secretion of the gland (the tears) is conveyed to the conjunctival sac by six to twelve ducts, which open in a row at the outer third of the

superior retrotarsal fold. The accessory glands consist of a group of small glands arranged in a row just above the conjunctival reflection. The secretion of the lachrymal and accessory glands is composed of water, albumen and salt, and is spread over the front of the eye by winking of the lids, lubricating its surface. The excess is collected in a triangular space at the inner canthus, the lacus lachrymalis, and is forced into the canaliculi by the orbicularis muscle, or flows over the cheek. Ordinarily the lachrymal gland pours out very little secretion and its removal does not materially affect the moisture of the eye, the secretion from the accessory glands being quite sufficient for this purpose. Under the same circumstances the tears evaporate from the surface of the eyeball, very little passing into the nose.

The canaliculi are two mucous canals about one-quarter of an inch long and half a line in diameter, which begin in the centre of a small elevation, the puncta, about one-fifth of an inch from the angle of the lids, and run along the edge of the latter (one above and one below), to the lachrymal sac. The lachrymal sac lies in a groove in the upper end of the lachrymal canal, oval in form, and flattened from before backward; is about two-fifths of an inch long and one-sixth of an inch wide; is continuous with nasal duct, sometimes direct and sometimes interrupted by folds of mucous membrane. The nasal duct runs in a bony canal downward, backward and outward, three-fifths to four-fifths of an inch long and one-eighth of an inch in diameter, and usually opens in inferior meatus of the nose.

Certain changes are observed in most of the tissues of the eye in old age. The sclera loses its elasticity to some extent, and presents calcareous deposits, favoring the development of the disease called glaucoma. The cornea diminishes in size and thickness, and also loses tone; the elastic layers become brittle and show warty elevations at margins. Usually after fifty years of age fatty degeneration begins in the upper and lower margins of the cornea, forming arcus senilis. These grayish, crescentric opacities gradually extend until their ends join and form a ring. The choroid, ciliary body and retina undergo degenerative changes, and their blood vessels become atheromatous. The lens increases in density, becomes flatter, and loses its elasticity, the nucleus assumes amber color, and small opacities appear. The zonule of Zinn is weakened, resulting in a tendency to dislocations of the lens.

Physiology.

The eyeballs may be considered as hollow, spherical boxes, blackened upon their inner surfaces, and having a system of convex lenses and transparent media, which unite the rays of light, forming inverted images of external objects, upon a special nervous membrane—the retina—which appreciates both intensity and color. Each eyeball, therefore, resembles a camera obscura. Images formed in the bottom of the eye may be seen by removing the sclera and choroid behind and leaving only the retina.

The impressions perceived by the retina are conveyed to the brain by the optic nerves, producing the results we call vision. The exact way in which our visual perception is gained of an object, single and erect from its two inverted retinal images, cannot be satisfactorily explained. We know, however, that the two eyes act in perfect harmony, and that the images are

symmetrically disposed on the two retinæ, and are combined into a single impression. The two retinal images are slightly different, the eyes being separated sufficiently for each to command a different view. Our ideas of solidity result from the union of the two images; our ideas of distance from the muscular efforts required to see distinctly and from experience.

The iris, with its central perforation, acts as a diaphragm regulating the amount of light admitted into the eye, by what is known as the reflex movement of the iris, the pupil contracting in a strong light and dilating in a feeble one.

The rays of light coming from any object, when entering the eye, pass through the cornea, aqueous humor, lens and vitreous before they reach the retina at the bottom (fundus) of the eye. As the light rays pass through these media they are bent (refracted) from their original course and united (focused) in the perfectly shaped eye, on the retina. It is absolutely necessary that they be focused upon the retina to form a perfect image upon that membrane. If the focus be at any point not on the retina, a blurred image results, and vision of course is indistinct. To see perfectly, it is further necessary that the focus be formed on the most sensitive part of the retina (macula lutea). The retina is sensitive to the impressions of light throughout, but especially so near the posterior pole, and therefore, when accurate vision is desired, the eyes are so directed by the ocular muscles that the light is focused on the macula.

Rays of light coming from any point of illumination, however distant, are divergent, but as the pupil ordinarily is only about two lines in diameter, rays coming from a distance more than twenty feet are so slightly divergent when they enter the eye that the divergence is not recognized. So, for all practical purposes, rays coming from a distance of twenty feet or more may be regarded as coming from an infinite distance, and, therefore, as being parallel. In the ideally perfect eye parallel rays are focused by its refractive media upon the macula, and a perfect image is formed upon the perceptive layer of the retina.

When rays enter the eye, coming from a distance less than twenty feet, they are perceptibly divergent, and the shorter the distance the greater the divergence. It will therefore be seen that the refractive media must undergo a change, i.e., increase the refractive power sufficiently to unite the divergent rays on the same place that the parallel rays were focused. This change the eye is capable of making, and it is called accommodation, because the eye can be adjusted or accommodated for different distances. The change is brought about by the ciliary muscle contracting. The suspensory ligament is in this way relaxed, and the lens, of its own elasticity, is rendered more convex, chiefly on its anterior surface. The iris is at the same time pushed forward, and the pupil contracted. The changes thus produced in the refracting media greatly increase the refractive power, accurately focusing divergent rays. There is a point, however, where the divergence is so great that the utmost effort at accommodation fails to unite the rays on the macula. This is the near point of distinct vision, and its distance from the eye gradually increases with age, owing to physiological changes in the lens, diminishing its elasticity. By means of accommodation the eye sees everything distinctly, from within a few inches to fifteen or twenty feet away, beyond which it is unnecessary, as the vision is perfect with the media in a passive condition.

While viewing distant objects, the axes of the eyes are parallel, but near objects require a certain amount of convergence to allow the focus to be formed upon the macula of each eye. The interal rectus is the principal muscle concerned in the act of convergence, but the other ocular muscles are more or less called into action to maintain a certain position or change the direction of the eye. When we consider that six muscles control the movements of each eye, and while viewing near objects each eye must be accommodated and converged so that a perfect image may be formed on a corresponding point in the retina of each, we can but wonder how it is possible for this complicated muscular action to be maintained for any great length of time in a normal state of perfection, much more when some portion of the delicate mechanism is defective, and the harmony of action is seriously disturbed.

Errors of Refraction and Accommodation.

Contrary to popular opinion, the perfect eye is the exception instead of the rule. In many cases, however, the defect is so slight that the eyes give very little trouble unless used excessively for close work, especially by artificial light. Very often the defect so materially disturbs vision, and requires such an unnatural strain to overcome it, that a variety of troubles result. The eyes not only feel fatigued and ache, but the lids may swell, or become inflamed, the eyes becoming so sensitive that mere exposure to light will bring on a severe paroxysm of pain. Again severe attacks of headache, dizziness and a host of nervous disorders may follow.

Emmetropia is the term applied to the normally-shaped eyeball.

HYPERMETROPIA, or over-sight, is a condition where the eye-ball is shorter from before backward than it should be, and as a consequence parallel rays of light are not united when they reach the retina unless the accommodation be called into play. A hypermetropic eye never sees at any distance without making an effort at accommodation; hence it is never at rest except during sleep, and the constant strain tends often to produce very serious consequences. In the majority of cases where hypermetropia exists, one eye is more defective than the other, and thus makes the defect much more difficult to be overcome by accommodation. The muscle of accommodation is under the same nerve control as the muscles of convergence, and hence the action of the ciliary muscle calls for a corresponding effort on the part of the converging muscles, and vice versa. When, however, one or both eyes are hypermetropic, a greater effort at accommodation is required, and while the eyes are focused for a given point they are converged for a nearer one, and double vision is the result. The double vision is produced by the images being formed at different points on the retina in the two eyes. Under such circumstances distinct vision is only obtained when the image of one eye (the weaker) is suppressed. If the difference in the refractive condition be very great, it will be a comparatively easy matter to suppress the image formed in the weaker eye; but if there be but little difference, one will turn inward, and the image, being formed on a less sensitive part of the retina, is finally ignored.

In the former case, the weaker eye may remain "straight," but in the latter the eye which turns in will soon become permanently "crossed." In this way nearly all cases of convergent squint, or strabismus, are produced.

Treatment of Hypermetropia.—The only thing that can be done to relieve this condition is to correct the defect by having the person affected wear convex glasses, which should be adjusted by an oculist who thoroughly understands the subject. The accurate correction of refractive defects is a matter of such great importance that no one but a competent person should undertake to do it.

PRESBYOPIA, or far-sightedness, is a condition that is the result of natural changes due to age. At about forty years of age most people find that they are compelled, in order to see well, to hold their newspaper a little farther from their eyes than formerly. The eyes also feel fatigued much sooner, especially when artificial light is used. This is the result of a diminished power of accommodation, and can be easily relieved by using properly fitted convex glasses.

MYOPIA, or near-sightedness, is the opposite condition from hypermetropia, that is, instead of being too short, the eyeball is too long. Parallel rays unite before they reach the retina, and divergent rays focus without the aid of accommodation. In hypermetropia the defect exists from birth, but in myopia it is usually acquired, although a predisposition, as a weakened condition of the coats of the eye, may be inherited. Close work favors the production of a myopic condition in the eye. Straining the accommodation and convergence increases the tension of the eye, and this interferes with the escape of the venous blood from the interior. As the veins pass through the sclera obliquely, any increase of pressure from within would tend to obstruct the flow of blood through them. The retarded escape of venous blood tends to still further intensify the intra-ocular pressure, and this to increase the myopia. The trouble, once begun, therefore, is very likely to become progressive, unless proper means are promptly employed to stay its further development.

Treatment.—As a myopic should be considered as a "sick eye," no time should be lost in having it cared for by one skilled in the treatment of such difficulties. Unless checked, the defect is liable to go from bad to worse until all useful vision is irreparably destroyed. All strain should be removed as far as possible, and close work abandoned until the progress of the difficulty has been checked. Concave glasses carefully selected should be worn all the time. A full correction of the myopia should be made by glasses for distant vision; and, if the defect be great, about one-half correction for near objects.

ASTIGMATISM (Gr.: a, without, and stigma, a point).—In this condition the rays of light entering in one meridian are focused at a different point from those entering in another meridian, the meridians of greatest difference being at right angles with each other.

In simple myopic astigmatism, one meridian is emmetropic (normal) and the meridian at right angle is myopic. Simple hypermetropic astigmatism has one meridian emmetropic and the other hypermetropic. Compound myopic astigmatism has both meridians myopic, but one more than the other. Compound hypermetropic astigmatism has both meridians hyper-

metropic, but one more than the other. In mixed astigmatism one meridian is myopic and the other is hypermetropic.

On account of the inability to focus all meridians at once in astigmatism, the defect is a source of much greater difficulty, and its correction is far more important than either hypermetropia or myopia. Neither convex nor concave glasses will correct astigmatism, because, the surface of the glass being curved equally in all meridians, when a glass is found that will correct one meridian, the other is either corrected too much or too little. A glass is required that will correct one meridian and leave the other unaffected. This is found in what is called the cylindrical glass, the shape of which shows it to be the segment of a cylinder, that is, in the direction of the axis of the cylinder the glass is the same thickness throughout, but its surface is curved in a direction at right angles with the axis. A cylindrical glass may be either convex or concave. The ordinary convex and concave glasses are spherical in shape. Compound astigmatism is corrected by using a lens that is ground spherical on one side and cylindrical on the other. Mixed astigmatism is corrected by one ground concave-cylindrical on one surface and convex-cylindrical on the other, with the axes of the cylinders at right angles with each other.

Diseases of the Eye and Their Treatment.

Diseases of the eye are so numerous and their diagnosis so difficult, that it requires long study, special training and experience to recognize and treat them with safety and success. Simple troubles will usually recover without treatment if not meddled with, but may ultimately prove serious if allowed to go unchecked or become aggravated by harsh or improper remedies. Grave difficulties may be overlooked as such, until vision has been permanently impaired or destroyed. In view of these facts, it is considered unnecessary if not dangerous to outline the symptoms and treatment of the various eye diseases in this article. Nevertheless, a few hints with reference to the handling of some of the simpler affections, conduct in emergencies, and the care of the eyes, will not be out of place.

If a foreign body should get into an eye, the tears will quickly begin to flow freely, and, in many cases, will wash it out. But if the substance be rough and angular, it may be imbedded in the cornea or the folds of the conjunctiva. When a foreign substance is supposed to be in the eye, the cornea should be thoroughly inspected by aid of a convex lens, if at hand, to concentrate the light upon the eye. The body may be so small as to escape detection with the unaided eye, but sufficient to cause great pain and dangerous inflammation. The best method of removing substances from the cornea, when a surgeon cannot be had, is to sharpen a lead pencil very fine, and, standing behind the person seated in a chair, steady the eye and separate the lids with the left hand, and gently pick it out with the point of the pencil. After removal of the foreign body, the eye should be rested, bathed in warm water if irritable, and the person instructed not to rub it. In case nothing be found in the cornea, the lower lid should be drawn down by placing the ball of the thumb on the cheek below, and, by pressing downward, the inner surface of the lid exposed. This should be carefully examined, and, if nothing is found, the upper lid should be everted, as shown in Figure 37, by seizing the eyelashes at the

middle of the lid, and, directing the person to look down, pulling the lid downward and outward, then placing a pencil or match on the lid about half an inch from its edge and gently pressing downward while the edge is lifted upward and over the pencil by means of the lashes. If anything is discovered on the upper or lower lid, it can be readily removed by the corner of a handkerchief being twisted to a point and used as a swab to brush it off.

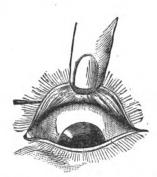


Fig. 37. Method of Turning the Upper Lid.

If the conjunctiva becomes reddened from any cause, it denotes, if long continued, that inflammation has been established; this may be confined to the conjunctiva or be a complication of some deep-seated trouble. It is not safe to tamper in such cases, but if a surgeon cannot be had at once, use nothing but simple remedies until professional advice can be

secured. Warm salt water (one quarter teaspoonful to pint) is a safe remedy in all inflammatory conditions of the eye, and if used for ten or twenty minutes three or four times daily, will relieve most acute affections of the lids and conjunctiva. All patent eye-washes should be avoided, because most of them contain acetate of lead, and if this is employed when there is an abrasion of the cornea the lead will be deposited and a permanent opacity remain.

Should the warm salt water not prove sufficient until a physician can be seen, bathe the eyes in a weak solution of alum or boracic acid (two to five grains to ounce).

As a rule, so long as the vision remains perfect there is nothing dangerous affecting the eye; when, however, sight is impaired, an oculist should be consulted as quickly as possible.

For the first twenty-four hours cold applications are advisable in all injuries of the eye, especially of the lids and conjunctiva; but after that time has expired, warm dressings are usually followed by the best results.

When mortar, lime or an alkali by accident gets into the eyes, they should be quickly washed with vinegar and water (one part to eight or ten). After being thoroughly cleansed, if any part of the conjunctiva is found eroded, fresh castor oil or vaseline should be applied over the raw surface, and care taken not to allow the lids to "grow" to the eyeball. If the conjunctiva be very much injured, the lids should be kept from coming in contact with the eyeball by a piece of cotton soaked in oil. In cases of injury from acids, the eyes should be washed immediately in bicarbonate of soda (salaratus) and water (one part to ten) and then dressed as a burn.

-*THE EAR.*

Anatomy.

The anatomy of the ear is usually divided, for the sake of convenience, into that of the external, middle and internal. The external ear embraces the auricle and exterior auditory canal; the middle ear the membrana tympani, cavity of tympanum, mastoid cells and eustachian tubes; the internal ear the vestibule, semi-circular canals, cochlea and auditory nerve. The auricle is the external funnel-shaped appendage attached to the malar and temporal bones by elastic fibres. It consists of fibro-cartilaginous framework closely covered by perichondrium and skin. From the lower end of the cartilage a projection extends, formed principally by the skin, the lobe of the ear. The outer edge of the auricle is called the helix; within this a depression, the fossa navicularis, at the inner edge of which is another ridge, the anti-helix. In front of the opening of the auditory canal is a projection, the tragus; opposite this on the other side of the canal is another projection, the anti-tragus. The concavity around the orifice of the canal is known as the concha. The triangular depression above the concha is the fossa triangularis.

The meatus auditorius externus, external auditory canal, extends from the auricle to the membrana tympani forward and inward, by a crooked course; average length about one inch. The outer one-third is cartilaginous, continuous with cartilage of the auricle. The inner two-thirds is formed by the bony canal in the temporal bone. At the bottom of the canal the membrana tympani is inserted in the tympanic groove, sulcus tympanicus. The membrane is placed obliquely, and hence the anterior and inferior walls of the canal are longest. The canal is lined by integument containing soft hairs, sebaceous and ceruminous glands. The secretion of the glands, corumen (wax), is chiefly fat and coloring matter.

The membrana tympani, or drum-head, separates the auditory canal from the tympanic cavity. It is so obliquely placed that the upper border is about a quarter of an inch nearer the entrance to canal than the lower. The posterior border is about one-fifth of an inch nearer than anterior. It is ellipsoidal in shape, with its long axis (one-third of an inch) downward and forward. At the upper portion, the short process of the malleus shows as a conical protrusion, from which

extend two folds, the anterior and posterior. The membrane is slightly concave externally. The deepest concavity surrounds the end of the handle of the malleus, and is called the umbo. The membrane is inelastic, and about $\frac{1}{230}$ inch in thickness. It is composed of three layers, a middle fibrous layer, covered externally by skin of auditory canal, and mucous membrane of tympanum internally. The middle layer has two layers of fibres, an outer radiating and an inner circular.

When viewed through the auditory canal, the healthy membrane presents a delicate bluish-gray color and is translucent. The short process of the malleus appears as a whitish tubercle, near upper margin, and the handle of malleus as a light stripe, running from this downward and backward to centre of the membrane. The "light spot" is a bright triangular reflection from the oblique surface of the membrane. Its apex points to end of handle, and its base toward margin.

The cavity of tympanum, or drum of the ear, is an irregularshaped space, lined by mucous membrane, which is continuous with that of eustachian tube and pharynx. The antero-posterior diameter is about 1/2 inch; the anterior-vertical, 1/4 inch, and the posterior-vertical, three-fifths of an inch; transverse, oneeighth to one-sixth; opposite drum-head, one-twelfth inch. The eustachian tube opens into upper part of anterior wall. Above the tube is the canal for the tensor tympani muscle, separated from it by a thin plate of bone. The posterior wall separates the tympanum from the mastoid cells, the openings into which are found at the upper part, close to the roof. The drum-head forms most of the outer wall. The inner wall forms outer wall of the labyrinth. An oval opening (fenestra ovalis) is found opposite support of drum-head in the inner wall which leads into the vestibule. The opening is closed by a membrane upon which rests the base of the stapes. A smaller opening below (fenestra rotunda) leads into the cochlea. The latter opening is closed by a membrane called the membrana tympani secondaria. Anterior, and between the fenestræ, is a rounded projection, the promontory. This corresponds with the first whorl of the cochlea. The upper wall is very thin and separates the tympanum from cranial cavity.

The bones of the ear (ossicles) are three in number — malleus (Lat. for hammer), incus (anvil), and stapes (stirrup). They form a chain across tympanum from membrana tympani to membrana ovalis. The malleus presents a head, neck, short and long process, and manubrium (handle). The incus has a head, long and short process. The head articulates with malleus, and is joined to roof of tympanum by a ligament; short process runs back to articulate with posterior wall of tympanum. The long process descends parallel with and behind the handle of malleus and terminates in a lenticular tip which articulates with the head of the stapes. The stapes has head, neck, crura and base. The latter rests in fenestra ovalis.

The tensor tympani muscle arises from the periosteum of the upper wall of its canal and upper wall of cartilage of eustachian tube, and from border of sphenoid. Before leaving the canal it becomes tendinous, and as it enters the tympanum turns nearly at right angle and is inserted into the anterior half of the inner side of malleus between short process and beginning of the handle. It draws the handle inward and makes the membrana tympani and the ligaments of the ossicles tense; at the same time the long process of the incus rotates inward with the malleus handle, and presses the stapes against the oval window and the fluid of the labyrinth. The stapedius muscle originates in the cavity of the pyramid and is inserted in the neck of the stapes. It is supposed to depress the base of the stapes and compress the contents of labyrinth.

The mastoid cells consist of a number of irregular cells contained in the mastoid process of temporal bone. In the upper part of the process a single large cell is found, the mastoid antrum. This communicates with the lower cells and the tympanic cavity. The eustachian tube is about a line in diameter, and extends from the pharynx upward, outward and backward to tympanum. It has a cartilaginous and bony portion. The tympanic end is bony, about half an inch long. The narrowest part of canal is at isthmus, the juncture of cartilaginous and bony parts. The pharyngeal orifice is trumpetshaped, and is found in posterior nasal space just above floor of nostril. Its mucous membrane is continuous with that of the pharynx and tympanum.

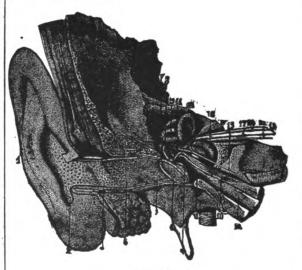


Fig. 38.

1, Auricle; 2, opening of ext. auditory canal; 3, bony part of canal; 4, cartilaginous portion; 5, ceruminous glands; 6, membrana tympani; 7, incus; 8, malleus; 9, manubrium; 10, tensor tympani muscle; 11, 12, eustachian tube; 13, 15, semi-circular canals; 16, cochlea.

The internal ear, or labyrinth, contains the essential parts of the hearing apparatus, the ultimate filaments of the auditory nerves. It embraces several bony cavities contained in the petrous portion of the temporal bone. Within these osseous chambers are membranous sacs which receive the distribution of the nerve. The sacs and intervening spaces are filled with a clear fluid. The bony cavities are three in number, the vestibule, semi-circular canals and cochlea.

The vestibule is an irregular ovoid cavity, situated internal to the tympanum. Its height and depth, antero-posteriorly, is about one-fifth of an inch, and its transverse diameter about one-tenth of an inch. The semi-circular canals are three C-shaped canals, starting from the vestibule and returning to it

again; are from one-twentieth to one-fifteenth of an inch in diameter. Length of posterior verticle, eleven-twelfths inch; anterior verticle, four-fifths; horizontal, one-fifth inch.

The cochlea (snail) is a tube that coils around a central pillar or axis, and tapers toward one extremity where it ends in a blind sac. It is about one and one-half inches long, one-tenth of an inch in diameter at the beginning and one-twentieth of an inch at the end; makes two and a half turns from below upward from left to right in right ear, and vice versa in the left. The cupola, or apex, is directed forward and outward. A thin wall separates the cochlea from the carotid canal in front. Internally it is in contact with the blind end of the internal auditory canal. It projects slightly, as the promontory on the inner wall of the tympanum. Its axis, spindle or modiolus, is made up by the inner walls of the tube and a central spongy bone substance; gradually diminishes in size from base to apex. Diameter at base, one-eighth of an inch; at apex, one-fiftieth of an inch; length, one-sixth of an inch. Base rests upon the bottom of the internal auditory canal. The apex is formed by the inner wall of the last half whorl, ending in a thin section of funnel, the infundibulum. The walls of the cochlear canal are lined by a very delicate perios-

The bony cavities of the vestibule and semi-circular canals contain membranous sacs which correspond in shape to the osseous chambers in which they are enclosed.

The utricle (Lat., utriculus, a little leathern bottle) is a flattened elliptical tube resting on the inner wall of the vestibule. The outer wall is free and is separated from the outer wall of the vestibule by a narrow space filled with endolymph.

The membranous semi-circular canals are of the same shape as the body canals, and open into the utricle by five openings, the same as the osseous communicate with the vestibule. The membranous fill the osseous canals at the openings, but in other parts considerable space exists between the two, which is filled by connective tissue, vessels and fluid. The walls of the utricle and canals are very thin and delicate.

The auditory nerve, or portio mollis of seventh nerve, begins by two roots in the medulla oblongata. One nucleus of origin is in floor of the fourth ventricle; the other is in the crus cerebelli ad medullma. The roots are in communication with the gray matter of the cerebellum and border of calamus scriptorius. The nerve winds around the restiform body, from which it receives filaments, and then passes forward in company with the portio dura, or facial nerve, to the posterior border of crus, and enters the internal auditory canal, where some fibres connect them together. At the bottom of the canal the auditory nerve divides into two branches, one passing to the vestibule and the other to the cochlea. The nerve, like the optic, is one of special sense, receiving and transmitting the impressions of the waves of sound.

Physiology.

The ear, as a whole, is a very complicated structure. The sound-waves are collected by the auricle, reflected into the auditory canal, are received upon the membrana tympani, which is thrown into corresponding vibrations; these are carried by the chain of bones across the tympanum to the fluid of

the labyrinth, and thence to the auditory nerves and through them to the brain, where they are recognized as sound. The membrana tympani, by the aid of its tensor muscle, can be maintained at various degrees of tension adapting it to different kinds of waves.

The atmospheric pressure within the cavity of the tympanum is governed by its communication with the mastoid cells and pharynx. The elements of the terminal auditory apparatus in the cochlea are supposed to be tuned to vibrate in harmony with all the different notes in our musical scale. The semi-circular canals are thought to preside over the equilibrium of the body, and to be concerned little, if any, in the function of hearing. There are still a number of points in connection with the physiology of audition remaining unsatisfactorily explained.

Diseases of the Ear and Their Treatment.

The statements made in the article on the eye are also applicable to the ear. The apparatus is so delicate that any disturbance of function should be referred to a skilled specialist for correction. Many erroneous ideas still exist in the public mind, which seriously interfere with the work of the aurist. The ear is regarded by some as so "delicate" that nothing can be done to alleviate its disorders, and cases of partial deafness are allowed to go uncared-for that could be readily cured.

The so-called "rising" in the ear, followed by an offensive discharge, is neglected because "it is dangerous to meddle with the ear" or stop a discharge from it. Many children are permitted to go in this manner without attention, at the imminent peril of their lives and with a serious impairment of hearing. The inflammation which causes such a discharge is located in the tympanic cavity, and is very liable to extend into the mastoid cells and the cranial cavity, resulting fatally. No possible harm could result from stopping the discharge, and no time should be lost in endeavoring to check it.

Children often put beans, coffee grains and other small substances into their ears, and the friends, in attempting to remove the foreign body, push it further into the canal. No instrument should ever be used, except by an aurist, to remove anything from the ear. The only thing that can be safely employed for this purpose is a syringe.

In case an insect gets into the ear, water should be poured in to kill it or cause it to come out. If this should fail to accomplish the desired result, a physician should be called.

If the ear itches or attracts attention in any way, it should be examined by a surgeon, or washed out, or a little vaseline applied on a pleget of cotton; and on no account should it be picked at with a hairpin, ear-spoon, or other hard instrument.

One of the most common forms of deafness is caused by an extension of inflammation from the throat to the ear through the eustachian tube. The first thing noticed by the person is a ringing noise in the ear and a slight impairment of hearing. These symptoms may come on so gradually as not to attract attention for some time. The disease can be checked in the early stages, and it is therefore important to attend to it as soon as noticed.

Children frequently suffer with "earache," and as the attacks often occur in the night when it is inconvenient to call medical

aid, every family should know how to render prompt relief. The | pain is usually indicative of inflammation in the middle ear which has begun in the pharynx and extended to the ear. Hot cloths should be applied to the throat and hot water poured into the ear. The water should be used as hot as can be borne, and

if it fails to relieve, a small quantity (1/2 grain) of morphine, dissolved in a few drops of warm water, should be dropped into the ear while the head is inclined so as to allow it to run in. It is not advisable to use oil or laudanum, because the oil may clog up the canal, and the alcohol in the laudanum will irritate it.



FEVERS.

FEVER is that morbid condition of the body characterized by increased heat, thirst, loss of appetite, dryness of skin, accelerated pulse, hurried respiration, muscular weakness, more or less pain and wakefulness, and general functional disturbance.

Fever may be symptomatic-as when it is the result of inflammation in some part of the body-or it is said to be ideopathic, or essential, when it is not the result of some other ailment, but of some specific poison which has entered the body, as measles, typhoid fever, small-pox, etc.

The temperature of the body in fever will range from 99 to 108 degrees. This is told by the use of a thermometer made for this purpose, called a clinical thermometer, which may be placed in the arm-pit or under the tongue, and allowed to remain there for about three minutes.

The temperature may run higher in some fevers without alarm than in others: 105 degrees is a high fever; 106 degrees is dangerous; 108 degrees, if long continued, is fatal. For instance, 104 degrees in typhoid fever is a high temperature, while it is comparatively low for scarlet-fever.

Heat is a stimulus, whether it originates within or without the body: hence the increased action of the heart.

The pulse of an adult in health ranges from 70 to 80 beats per minute. In fever it may range from 90 to 140 or 150. A pulse of 120 indicates a high fever; 130, if long-continued, is a dangerous symptom.

In a normal condition, there are about four beats of the pulse to each inspiration. Hence, the respiration in all fevers is hurried in proportion to the increased pulse, and the pulse rate should go up and down with the temperature. It is a bad omen to find a high temperature with a low pulse, and vice versa. Also, it is a bad symptom to find a rapid pulse with a low breathing rate.

Pain alone may produce all the symptoms of fever, and upon the removal of the cause of pain the fever will subside. The great object to be sought in the treatment of fevers is the lowering of the temperature, which can be accomplished by a free use of cold water. If not advisable to use the pack-which consists in rolling the patient in a sheet lightly wrung out of cold water-frequent sponge-baths may be given instead.

The higher the temperature, or body-heat, the greater the evaporation. The water of the body is carried away very rapidly. Here we see the great importance of free use of but also lowers the temperature of the body. Lowering the temperature lowers the pulse in force and frequency, and also diminishes the breathing rate.

The heart's action may be controlled by the use of the tincture of aconite root or the tincture of belladonna in doses of about five drops; or the tincture of veratrum viride in doses of from two to three drops every three or four hours. Some prefer smaller doses given with greater frequency, which can and must be done when the stomach is at all irritable.

If there is much nervousness, the aconite should be given; if pain, belladonna is better; if at all desirable to produce nausea, as in pneumonia, veratrum viride may be given.

In all fevers there is more or less increased destruction of tissue; hence the importance of keeping all of the emmetories, the bowels, kidneys and skin, active or open to carry out all this increased debris of the system, thus keeping the blood pure.

It is also of vital importance that the patient should have an abundance of cool, fresh air, and sufficient nourishment to keep up the strength of the organs, especially the heart.

Fevers are generally divided into three classes: those in which the febrile condition continues from the beginning to the end, called continued fevers; those which come and go with more or less regularity, called periodical fevers; and those characterized by an eruption on the skin, and called eruptive

Typhoid Fever.

TYPHOID FEVER is a disease caused by bad sewerage, the odor from old privy vaults, or drinking water contaminated with human excrement, especially from typhoid-fever patients. It is a low grade of fever, which attacks a person but once. It comes on so gradually that it is hard to say when the disease began. It generally runs its course in spite of treatment. Treatment may save a case from a fatal termination, or reduce its duration to the minimum, which is three weeks. At first the patient complains of fatigue, loss of appetite, mental dulness and lack of interest in his work. There may be diarrhoea. Pulse ranges from 90 to 110 per minute; temperature from 100 degrees to 104 degrees. The skin is dry and of a bronze hue. There may be bleeding from the nose. The tongue will have a brown coat, which, if the patient is not given an abundance of water, will become very dry. The lips and teeth collect cold water as a drink, which not only replaces the water lost, a dark brown or blackish, gum-like matter, called sordies. In

the second week the patient may become more or less delirious, and, if not closely watched, may get out of bed, in consequence of delusions. It is a common thing for the patient to imagine himself away from home. Little red spots, like fleabites, may make their appearance upon the abdomen. If there has been diarrhoea, the abdomen may become distended with gas. Hemorrhage from the bowels may take place. During the third week any or all of these symptoms may become aggravated.

If the patient does well, at the end of the third week he will begin to improve, the tongue will clean, the skin become moist or wet with perspiration, and the mind perhaps become clear. He has not asked for anything, but now he may express a desire for food or drink.

The treatment for this disease, in a mild case, is simply good hygienic surroundings and care. On account of the low mental condition, he may not be conscious of his wants. Hence he may never call for water or food.

He should have milk and other nutritious food in such quantities as he can digest, at short but regular intervals.

The bowels will need attention. If there be diarrhœa, some mild astringents may be given, as fluid extract of logwood. If the bowels are distended by gas, spirits of turpentine may be given. If constipation ensue, some mild laxative, as castor-oil, syrup or tincture of rhubarb, or an enema of tepid water, will relieve the symptoms. The temperature and circulation can be controlled, as laid down under the head of fevers in general.

In bad cases any or all of the symptoms may be aggravated, and will need special attention.

Young persons are more likely to recover than persons advanced in life. They are also more liable to contract the disease.

Typhus Fever.

TYPHUS FEVER is a disease arising from the crowding of human beings into a small space, as in emigrant ships, in prisons and in the poorer quarters in large cities. Typhoid fever is produced from human effete matter thrown off from the bowels. Typhus is liable to become epidemic after famine or excessive privation of any kind. When once originated, it is contagious in densely populated districts; thence it may spread to cleaner and more healthy parts of the city.

The attack is more sudden and its duration shorter, and the temperature and pulse somewhat higher than in typhoid. The eruption on the skin is somewhat like measles. Gangrenous spots are liable to appear, and may assume a very serious aspect. The tongue becomes contracted, dry and black; the bowels are constipated; no appetite; delirium is present, and is followed by coma, in which condition the patient may sink and die, or gradually pass into a more natural sleep, from which he may wake convalescent.

Treatment similar to typhoid. Personal cleanliness; perfect ventilation; good, easily-digested food; milk in its various forms; an abundance of cold water. The circulation and temperature are to be controlled as directed in fevers in general.

Malarial Fever-Ague.

INTERMITTENT FEVER is one form of malarial fever. It has cold, hot and sweating stages, with a normal interval following. The patient may go through these stages every day,

every other day, or every third day. This disease is caused by decaying vegetable matter. It prevails in new countries, river bottoms, districts which overflow, or in the neighborhood of canals or mill-ponds. It may prevail in houses with bad cellars, or where the sills and floors are in a state of decay. It does not make its appearance while the land is under water, but when the water recedes and exposes the half-rotten vegetable matter to the sun. Some physicians suppose this disease to be caused by a microscopic vegetable germ which enters the system, contaminating the blood.

Intermittent fever is not self-protecting nor self-limiting. Some persons are never free from it while they reside in a malarial district. It runs an indefinite course if not checked by remedial agents. If not treated, the blood of the patient becomes impoverished, the lips pale, the skin sallow, the muscles weak and the body emaciated. The spleen becomes large, vulgarly called an ague cake. Some persons may become acclimated, improve, and finally get well without medicine, but the majority would go from bad to worse and die, or become so weak as to have no physical endurance or resistance, and would finally succumb to some other disease which they, in the depraved state of the system, are not able to withstand. The system may become so surcharged with the poison as to cause death from the severity of the chill before reaction or the fever stage comes on. This is what is called a "congestive chill." Every chill is in reality a congestive chill—that is, during the chill some internal organ is congested, or contains an abnormal amount of blood; hence the variety of symptoms during this stage. One may have difficulty of breathing because of congestion of the lungs; another may have pain in the head; another, in the stomach or heart.

Instead of the cold, hot and sweating stages, the patient may have severe periodical pains along the course of a nerve. This constitutes one form of neuralgia. At another time, or another patient, instead of suffering from either chills or neuralgia, may have a periodical diarrhœa, or there may be hemorrhage from some part of the mucous membrane.

Treatment.—The night-air contains the malarial poison in greater abundance than that of the day; so that if persons must live in a malarial region, they can lessen the liability to contract disease by being in the house before sunset, and remaining there until after sunrise in the morning. An attack may be induced in some persons by eating anything which is difficult to digest. It becomes those who are susceptible to the influence of this virus to look well to their food.

Some preparation of Peruvian bark enters into almost every formula for the cure of intermittent fever. Sulphate of cinchona is the cheapest, but it is more likely to disturb the stomach. Cinchonidia is cheaper than quinine, and is like it in appearance. It is not as likely to disturb the stomach as the sulphate of cinchona, but more so than quinine. Quinine is more used because it is less irritating to the stomach, though it is of a higher price. Quinine is the king in this realm of remedies. If the interval between the paroxysms is short, we must give larger doses, and closer together. When the paroxysms are farther apart, we can give smaller doses—three or four grains every two hours. We believe we shall have better effect from small doses close together than by giving doses of five or

ten grains, four or five hours apart. We need, in ordinary cases, to administer from twenty to thirty grains between the paroxysms. The taste of quinine can be disguised by putting it in cold coffee or tea. A few doses of bromo-hydric acid will prevent the disagreeable effects and the ringing in the ears produced by quinine.

Occasionally we meet with persons who cannot take quinine. We can use salicine in the same doses as quinine, or a little larger doses even.

Arsenic is used in chronic forms of the disease, and may be used where quinine cannot be employed.

Nux vomica or strychnine may be used in combination with other remedies.

Remittent Fever.

REMITTENT FEVER is by some authors treated under the head of intermittent fever, considering it simply another form of the same disease. Its origin appears to be the same as that of ague, but the disease is of such intensity, and the stage of febrile excitement lasts so long, as to crowd out the cold and sweating stages. In this fever the hot stage is severer in intensity as well as longer in duration. The stomach is so disturbed that it demands the major part of our attention. Vomiting is very distressing to the patient and annoying to the physician. Bile is vomited, and thirst is very great. The skin and the white of the eye become yellow. This is a more serious disease than the intermittent type. The bile may be absorbed and the urea not thrown off. Both contaminate the blood. The patient may sink into a low typhoid condition and become delirious. This condition is called typho-malarial fever.

In treatment the stomach first demands attention. Aromatic sulphuric acid may be given in five-drop doses in water every hour or two. Or ten drops of dilute muriatic acid and five drops of the tincture of aconite root in water every two or three hours may be given.

To control the vomiting it is at times advisable to apply a mustard poultice over the pit of the stomach. Lemons are also useful. Either let the patient suck the juice or drink a little strong lemonade. After we have controlled the stomach symptoms, the treatment should be as advised in intermittent fever.

Yellow Fever.

YELLOW FEVER originates in hot, low, filthy localities. Having once originated, it may spread, as other contagious diseases—may be carried a great distance in clothing or goods. Exposure and dissipation are strong predisposing causes. Nonacclimated persons are more liable to be attacked than natives. It is more fatal among the white population. The death-rate is high. Patients recovered from this fearful disease enjoy immunity from attacks in future. The attacks generally begin rather suddenly. The temperature ranges from 101 to 107 degrees. The symptoms are a dry skin, rapid pulse, thirst, frontal headache, pain in the back and calves of the legs, and vomiting. At first, the vomited matters consist of mucus and of portions of food. There is a cream-like coat upon the tongue, and tenderness at the pit of the stomach. After a day or two the pains abate, but the vomiting is likely to increase, and the skin becomes yellow. About the fourth day, the vomit contains blood, hav-

ing the appearance of coffee-grounds, and known as "the black vomit." The urine and stools also contain blood. The tongue becomes dry and black, the pulse rapid but feeble. Delirium and coma now set in.

Death or convalescence may take place at any time. Convalescence may take place so early in the disease as to leave some doubt as to the correctness of the diagnosis, and death may strike the patient down before any of the characteristic symptoms are established. At times blood is found not only in the stools and urine, but the eyes, nose and mouth may bleed profusely, thus rendering the patient the most pitiable object imaginable.

This disease demands the highest hygienic skill. It can be perpetuated by the virus contained in exposed clothing or furniture. Treatment should be according to general principles. Pain and vomiting are best controlled by the hypodermic injection of morphine. Muriatic, nitric and sulphuric acid and quinine are called for.

The convalescence is generally protracted. The yellowness of the skin continues for a long time. At this period the main thing needed is good, judicious feeding and tonic treatment.

Rubeola-Measles.

This is a very infectious febrile disease. As a rule it is experienced but once. Children are more frequently attacked than adults, partly because most adults have, as children, suffered from an attack, and thereafter enjoy immunity from the disease. But it is also true that adults unprotected by a former attack are less susceptible. About two weeks elapse from the time of exposure to the development of the disease. The first symptoms are those of a cold. The patient coughs and sneezes; the eyes are suffused, and a thin mucus flows from the nose. There is a pink appearance of the eye, and during the catarrhal period there is a slight fever. On the third or fourth day the fever is increased, and an eruption begins to make its appearance at the roots of the hair and upon the forehead and temples. The eruption is of minute red spots scarcely raised above the surface, and smooth to the touch. In small-pox the eruption has a sandy or gritty feel. The first attack of small-pox is somewhat like remittent fever-a high temperature with vomiting. In measles it is more like a cold. The fever rises with the eruption. In small-pox it falls. Two days are required for the eruption to become general, and in about three or four days more it begins to disappear in the order in which it came. Now the temperature suddenly falls to the normal, or very near it. The temperature seldom rises above 104 degrees.

At times the lungs become involved to an alarming extent. The cough from the beginning is very annoying, and it is liable to continue for a long time after every other symptom has disappeared. The eyes become inflamed during the catarrhal period, and they so remain long after the patient is well in every other respect. At times the eyelids become granulated. The throat symptoms may also continue for some time, but never become a serious complication, such as that occasioned by scarlet fever.

Treatment.—In this disease, great care against exposure is required. More soldiers, during the late civil war, died from measles than from small-pox, because in small-pox less harm is occasioned by exposure. All the windows and doors may not

be permitted, in the case of measles, to be thrown open, unless it be summer; but from experience we know that the nurse needs be cautioned more against keeping the room too warm, against steaming, sweating and stimulating the patient. If it is an ordinary case, nothing is required beyond securing the greatest amount of comfort. Sometimes the eruption is very tardy in coming out. In such cases, a warm bath is useful in bringing out the eruption. Hot drinks may also be given. Such cases are exceptions, however, and not the rule. A few drops of aconite and sweet spirits of nitre, in water, may lower the pulse rate and temperature, but are generally not required. Syrup of ipecacuanha and syrup of tolu will mitigate the cough. The bowels may need some attention. If there should be a diarrheea, paregoric may be added to the cough syrup. If constipation exist, syrup rhubarb may be given.

The "black" measles is not another disease, but a malignant form of the same, the eruption being attended by small hemorrhages under the skin, analogous to that in the malignant form of small-pox. This condition is attended with danger.

Variola—Small-Pox.

SMALL-POX is a highly contagious, specific fever, which makes its appearance in about two weeks after having been exposed to the contagious influence. One attack secures the patient immunity from the disease in future. The attack begins with a very high fever and intense backache. The pain is in the centre of the back, and is not relieved or altered in the least by any change of position. There may be vomiting as in remittent fever. At first there is no eruption, nor anything, except the peculiarity of the pain in the back, which would lead any one to suspect the true nature of the disease. On the second or third day the eruption makes its appearance at the roots of the hair on the forehead. The eruption is raised above the surface, and gives to the touch a gritty or sandy feeling. If this is looked for diligently, there need be no mistaking small-pox for measles, since the eruption of measles at first is not elevated, but is smooth, while that of small-pox is sharply elevated. This sharp, papillary eruption develops into little vesicles or blisters filled with a watery fluid. About the seventh day these little blisters become filled with pus, hence are called pustules. A peculiarity of these pustules is that the centre is depressed, forming an umbilicated pustule. About the tenth or eleventh day the pustule is fully developed, and dries into a crust by the fourteenth day. The mucous membrane of the throat, and sometimes the trachea, is also effected by the eruption. The patient coughs and expectorates a very tough and disagreeable mucus.

On the appearance of the eruption the fever abates and the patient feels much better, while in scarlet fever the temperature increases with the eruption. In small-pox the reverse is true. About the eighth or ninth day, at which time the pustules are developed, the fever rises again. This is termed the secondary fever, and is the most dangerous period of the disease. The patient is weaker and has less power of resistance.

The pustules are very likely to destroy the true skin beneath them, hence the pit, so commonly seen after this disease. Where the pustules are not so numerous, but stand alone, the eruption is said to be discrete. When they are so numerous

as to touch each other, it is called *confluent*. Sometimes, instead of the vesicle filling with a watery material, they fill with blood; hemorrhage also takes place from the various parts of the mucous membrane. This form is called *hemorrhagic* or *malignant* small-pox.

Treatment. — From beginning to end the sufferer needs an abundance of cool, fresh air. In ordinary weather windows and doors should be open, provided the wind does not blow directly upon the patient. The neighbors need not object, for the contagion of small-pox is not carried through the air. The virus must be carried from the sick to the well, and whatever can be the means of this transfer of virus (usually in clothing) will communicate the disease, and it cannot be communicated in any other way. An abundance of bland drinks to soothe the irritated throat—such as flax-seed tea, barley-water and milk. Chlorate of potassium may be freely used for the same purpose. The temperature must be treated as stated under the head of fevers in general.

When the pustules are formed, the skin, especially of the face and hands, may be covered with olive oil. It soothes the itching and prevents a too hard crust forming. Some cover the face with mercurial ointment for the same purpose, to prevent pitting. If stimulants are needed, it is not until the secondary fever sets in. This is looked upon as a critical period. The patient needs to be well fed. If the throat is sore, solid food may be out of the question.

The eyes will need at times special care. The room may have to be darkened. A solution may be made of sulphate of zinc, two grains to an ounce of distilled water. A few minims of this solution may be dropped into the eyes two or three times a day to control the inflammation.

Varioloid

Is a modified form of small-pox. One who has had small-pox, or has been vaccinated, but is not fully protected, if exposed to the disease, may become ill with all the symptoms of small-pox, but in a modified degree. The eruption makes its appearance, there being, however, but few pustules, and these are less likely than the pustules of variola to leave scars. No secondary fever is developed in varioloid. But little treatment is needed, and that little does not differ from that of small-pox.

Vaccination-Cow-Pox.

Cow-pox is contracted from small-pox in the cow. It matter be taken from the pustule of a small-pox patient and introduced into the cow, in due time the eruption will make its appearance upon the udder. Pus taken from a pustule on the udder of the cow and introduced under the skin of a human being will produce the disease of kine or cow-pox, which is believed to protect the subject against an attack of true variola. At the point where the virus has been introduced, a vesicle appears, which in a day or two develops into a pustule. This pustule is depressed in the centre.

The course is precisely the same as in small-pox, only that the pustules are confined to the one point where the virus was introduced into the system. The fever is insignificant in comparison with that attending small-pox. Why the disease should be thus modified by passing through the cow, we do not know. But, knowing that small-pox protects a person from any future attack, and knowing that cow-pox is small-pox, we can readily understand why cow-pox protects against small-pox.

If by introducing an insignificant disease the human family can be protected from such a loathsome, disfiguring, devastating scourge as small-pox, he who opposes it should be considered a misanthrope, and should be treated as such by all intelligent citizens.

Vericella-Chicken-Pox.

CHICKEN-POX is a contagious but an insignificant disease, generally confined to children. The fever is so mild as to need no attention. The eruption at first consists of pimples with inflamed bases, which develop into blisters, or vesicles, as large as split peas, or even sometimes as large as copper coins. These become filled with a milky fluid, and finally break and dry up into crusts or scabs. The eruption comes out in successive crops, so that in a well-marked case it can be seen in its various stages at the same time. The eruption lasts about a week, and in about another week the crusts fall off. This disease, like the other eruptive fevers, protects against itself. No treatment beyond good nursing is required.

Scarlatina—Scarlet Fever.

SCARLET FEVER is a highly infectious malady, attacking children chiefly; not because the child is any more susceptible to its influence, but because the older children and adults have all had the disease or are not susceptible to it. Why some should pass through several epidemics without taking it, and then some time in after life should contract the disease, we do not know.

The beginning of the disease is generally sudden. A child exposed a week ago has been in perfect health until now. The attack begins with a high temperature, headache, vomiting, and sore throat. Young children may have convulsions at the very beginning of the attack. Within the next twenty-four hours a fine red rash may be seen over the chest. Within a few hours it may make its appearance on the arms, lower part of the abdomen and upper and inner part of the thighs, and become ger ral within the next twenty-four hours. It will take three or your days to fully develop. The temperature increases with .e rash. It may rise to one hundred and six degrees without much alarm-even one hundred and seven or one hundred and eight-but if this temperature long continues we may look for an unfavorable issue. The eruption begins to fade about the fifth or sixth day, and the temperature and pulse should fall as the eruption fades. We may expect the rash to disappear about the tenth day of the disease.

This disease may be so mild as to demand no attention, there being nothing but a red rash and very little fever. At another time the throat symptoms are the only ones of gravity. The throat trouble may be of secondary consideration, or the swelling may threaten suffocation. Ulceration of the throat may become serious. This form has been called malignant or putrid sore throat.

Treatment.— The patient should be removed from all unprotected persons. Cold water may be used to sponge the patient. We must keep down the temperature to the lowest point. Aconite and belladonna may be used to lower the temperature. Chlorate of potash for the throat (not only as a gargle, but we

may administer from forty to sixty grains in twenty-four hours). The room should be cool and well ventilated. A small quantity of carbolic acid may be put into the water used in bathing.

When the skin begins to scale off, it will be well to anoint the patient with vaseline containing five per cent of carbolic acid. The kidneys will need attention, as well as the ears. It is not uncommon for a child to get well of this fever and die of dropsy. Many deaf persons owe their misfortune to the sequels of scarlet fever. Patients convalescing from this disease need as much if not more care than during the higher stages of the fever. A cold may produce irreparable mischief.

Diphtheria.

DIPHTHERIA is a contagious febrile disease, during which an ash-colored false membrane forms, generally in the throat. It may form in the nose, in the larynx or trachea. The first symptom is usually a chill, followed by high temperature (105 or 106 degrees Fahrenheit), and more or less swelling of the parts involved, threatening death by suffocation or inability to swallow. There is a peculiar odor of the breath of the patient. The disease may be communicated by the matter coughed up; hence the necessity of especial care. Handkerchiefs and towels used by the sick of this disease should be properly taken care of. It is better to use old cloths and burn them.

This is a disease of all countries, persons, ages, sexes and conditions, but children are more liable to be attacked, and it is more fatal with them. The mortuary rate is high.

This disease, in a particular case, may be so mild as not to occasion inconvenience to any extent beyond a little sore throat. It may be so severe and the swelling so great as to threaten death by shock or by suffocation in a few hours.

The sequels may be serious; by attacking the kidneys, and interfering with the proper evacuation of urea, the patient may die of uremic poisoning. The throat may become paralyzed, so that the patient cannot swallow, the paralysis extending to the organs of speech. It may extend also to the limbs. The patient, in the majority of cases, recovers from the paralysis within four months, if he survives the acute stages of the disease. Diphtheria is not to be treated wholly as a local disease. The tendency is to loss of strength and death from exhaustion; hence tonics should be administered from the beginning. Quinine is well borne. Two grains every hour or two may be given, or tincture of iron in doses of ten drops every two or three hours in a tablespoonful of water. It will be well to have the patient drink this slowly so that it may have a local effect upon the throat. If the throat is badly swollen a gargle of tincture of iron and water may be used every three or four hours. In all cases of diphtheria a physician should see the patient daily.

Rheumatism.

RHEUMATISM is a constitutional disease, characterized by certain local manifestations. These manifestations are due to inflammation, acute or chronic, of the synovial membrane lining the joints, of certain serous membranes, particularly those of the heart, and of fibrous tissue elsewhere in the body. Rheumatism is classified as acute articular rheumatism and chronic rheumatism.

In ACUTE ARTICULAR RHEUMATISM the lining membranes of the joints are inflamed. In the course of the disease cer-

tain complications involving internal organs are liable to arise. The parts more likely to become affected are the serous membranes, the *end ocardium* and *pericardium* lining and surrounding the heart.

The attack usually begins suddenly. Sometimes there is a slight amount of fever for a day or two preceding the joint affection; sometimes the pain and tenderness of the joints precede the fever, but usually these symptoms appear together. The disease may attack any joint of the body, and is indeed very seldom confined to one or two. The affected joints are swollen, red and extremely tender. Pain is not so great except when attempting to move, or when disturbed or jarred. The slightest movement causes the most excruciating pain. Swelling is most apparent when the knees, ankles or wrists are the joints involved. The swelling is usually in proportion to the severity of the inflammation. One joint after another generally becomes involve i. Sometimes upon attacking a new joint all tenderness and swelling disappear from the joints first involved. The fever ranges in this disease between 102 and 108 degrees. Profuse sweating is a common symptom.

The disease very rarely proves fatal. When it does it is due to the extension of the inflammation to the heart, and the development of pericarditis. Even then the number of deaths during the acute attack is very small, but in the fact that the heart is so frequently attacked lies the danger of the disease, for, as explained under the head of diseases of the heart, the great majority of valvular diseases of the heart are due to endocarditis developed during an attack of acute rheumatism. Usually, however, the lesion of the valves causes no inconvenience until a number of years afterward. The heart is more likely to become involved, the more intense the disease. Other organs, such as the pleura, the peritoneum and the membranes enveloping the brain, have been known to suffer inflammation during the attack, but it is extremely rare. The head is usually free

from pain. The duration of the attack varies from ten days to five or six weeks. There are sometimes relapses. One who has once suffered from acute rheumatism is more liable to subsequent attacks.

Treatment. - Notwithstanding the popularity of salicylic acid, or the salicylate of soda, in the treatment of rheumatism during the last few years, we believe that as much or more may be accomplished by the use of what has been known as the alkaline treatment. The alkali, either bicarbonate of potassa or soda, should be given in full doses, every three or four hours. Lemon juice may be added to the dose and taken while effervescing. As soon as the urine is rendered alkaline (which may be told by testing with red litmus paper, which turns to blue if dipped into an alkaline fluid), the dose should be greatly diminished, and taken thereafter only once or twice a day. Tonics are useful. Quinine in two-grain doses may be given. Tincture of aconite applied to the swollen joints often affords relief. Chloroform liniment or soap liniment is also used for this purpose. The salicylate of soda is much employed-perhaps at this time more than any other remedy.

CHRONIC RHEUMATISM differs from the acute variety in the degree of severity of the symptoms, and in their duration. In mild cases the patients are able to go about their work, but suffer more or less pain in the affected joints. In other cases, more severe, the patient is confined to his bed, and frequently, with those about their avocations, there is more or less deformity of the joints.

Treatment.—The alkalies may be used in small doses; also the salicylate of soda. Iodide of potassium is sometimes very useful, and in malarious districts quinine is to be employed.

The local applications to the joints here are of more importance than in the acute variety. Tincture of aconite, tincture of iodine and chloroform liniment are very useful.



* EMERGENCIES.*

Hemorrhage.

A rapid loss of blood is one of the most alarming experiences in life. Nothing is more startling than the hemorrhage from a large vessel, in the case of wounds made with a sharp instrument. If the wound is of one of the limbs, the bleeding may be easily controlled until a surgeon can arrive. If the blood is of a bright-red color, and flows in spurts with the pulse, the wounded vessel is an artery, and the blood comes directly from the heart. The artery must be compressed above the wound. The best way to do this, in case of the arm, is to tie a

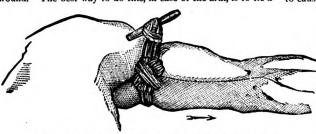


Fig. 39. Bandage Applied on Arm to Stop Bleeding. The dotted line indicates the course of the artery.

hard knot in a handkerchief; then pass the ends around the arm and tie firmly, having placed the knot over the course of the artery; then insert a small stick, and tighten the bandage by twisting, as shown in Fig. 39. If the wound be of the leg, apply the knotted handkerchief as shown in Fig. 40. The bandage thus made is correctly applied if the bleeding ceases. Otherwise the position of the knot must be changed until the bleeding vessel is successfully compressed.

If the wound is of the trunk, or if the bleeding is not severe, the edges should be brought closely together with adhesive plaster, or with a common needle and thread, and the wound filled with cobwebs, or any substance favoring coagulation of the blood. The patient should be laid down and kept perfectly quiet.

BLEEDING FROM THE NOSE is caused by the rupture of a small vessel of the nasal mucous membrane. Generally, the loss of blood is not great, and soon ceases without treatment. Occasionally the hemorrhage is so profuse as to greatly weaken the patient, and even endanger life. Cold applied to the back of the neck, by means of a piece of ice or iron, is useful. Plugging the nostrils is sometimes of benefit, but in severe cases the blood will then flow backward into the throat. In the most severe cases it is sometimes necessary to plug also the opening

of the nose into the throat. This last measure is always successful, but a physician should be called to do the operation, as a person without experience would be apt to fail.

BLEEDING FROM THE LUNGS.—A small amount of blood sometimes takes place into the bronchial tubes, giving rise to "spitting of blood." With this variety there in no immediate danger from loss of blood. Sometimes, however, in cases of consumption, rupture of vessels of considerable size takes place, causing a copious hemorrhage. This is sometimes so severe as to cause death. The patient should be put to bed at once and

required to lie quietly upon his back. Twenty drops of laudanum may be given every two hours. Also acetate of lead or tannic acid. A lemon may be sucked, and in some instances has a most excellent effect. A large spoonful of common salt, dissolved and taken into the stomac'a, is said to be very useful in controlling the hemorrhage. The patient should be kept quiet for several days.

Accidents.

BRUISES, SPRAINS, DISLOCATIONS AND FRACTURES.
A BRUISE should be dressed with a cold water bandage and kept wet. Perfect rest should be given the

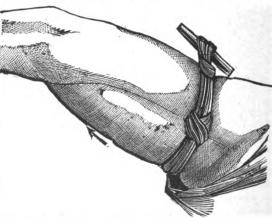


Fig. 40. Bandage Applied on Thigh so as to Stop Bleeding from a Wound Below.

The black line indicates the course of the artery.

part. In case of a bruise about the face or eyes, much of the discoloration may be prevented by at once applying a cold water dressing, or ice, which is better.

A SPRAIN, whether it is of the ankle, or knee, or wrist, should at once be tightly and thoroughly bandaged, and perfect rest should be given the part. A speedy recovery by this means will usually result, when any other course may make a cripple. In bandaging the knee or ankle the bandage must be applied down to the toes, to prevent swelling and stoppage of the circulation.

In case of either FRACTURES or DISLOCATIONS the patient should not be allowed to make an effort, lest he may do himself additional injury. A great many times, by attempting to walk with a broken leg, patients have thrust the end of the fractured bone out through the flesh, thus greatly increasing the danger of a serious result. The injured member should be straightened out, and the patient placed in the most comfortable position to await the coming of the surgeon.

Bites and Stings.

BITE OF A MAD DOG.—The wound is to be immediately sucked either by the patient or another person. No harm can result if there are no abrasions or scratches upon the lips, and it is a very ready and effective way of removing the poison from the wound. Send at once for a medical man to cut or cauterize the wound. If none can be had within a few minutes, any person can cauterize the wound with lunar caustic, or, if none be at hand, the wound may be burned to the bottom by a small red-hot iron. The bite of a dog not mad is usually very painful, and is attended with considerable inflammation and swelling. Cloths wrung out of hot water may be applied. Later, a flax-seed poultice, with a half-teaspoonful of laudanum sprinkled upon it, should be applied.

BITE OF A VENOMOUS SERPENT should be treated in the same way as the bite of a mad dog.

Brandy or whisky should be given in considerable quantity.

STINGS OF WASPS AND BEES may be treated by bathing the parts with ammonia or hartshorn, diluted with an equal amount of water. In case of the honey-bee sting, if there is much swelling, a poultice of flaxseed should be applied.

Burns, Scalds and Frost-Bites.

In case of Burns or Scalds the parts should be protected from the air at once. If a quantity of white oil-paint is at hand, cover the burn at once by applying gently a very thick coat of the paint. In a little while another coat is to be given. If no paint is to be had, apply olive oil and cover with flour. If no sweet oil is to be had, lard will do. If no oil of any sort is to be had, then cover the part with dry flour. The patient should be given a full dose of laudanum or paregoric, or opium or morphine. If the burn has been very extensive, a physician should now be sent for.

In case of FROST-BITE, the circulation must be slowly restored; hence great care should be taken not to bring the patient into a warm room. The frozen part may be rubbed with snow in a cold room, or immersed in very cold water, and kept there for two or three hours, until the circulation has been fully restored.

Suffocation.

Suffocation takes place whenever the air is shut out of the lungs; this may be done by compressing the windpipe, as in *choking* or *hanging*; or filling the lungs with water, as in

drowning; or with poisonous gases, as charcoal gas from burning charcoal, or by the escape of illuminating gas into the sleeping-room; or by the poisonous gas in mines and old wells.

In case of strangulation, as by hanging, the pressure upon the windpipe is to be instantly removed, and the bands about the neck and body loosened. In the case of inhalation of a poisonous gas the patient is to be at once removed into the open air; while the drowning person is, of course, to be removed at once from the water, and movements made for emptying the water out of the lungs. The wet clothes should be stripped off and the body wrapped in a warm shawl, blanket or dry coat; no time should be lost in changing the clothing, but efforts at artificial respiration should be made at once, and the clothing can be gotten off while these efforts are in progress. Artificial respiration should be employed in all cases, whether of hanging, drowning, or suffocation by a poisonous gas. The following method of Marshall Hall is as good as any other:

- 1. Treat the patient instantly on the spot, in the open air, freely exposing the face, neck and chest to the breeze, except in severe weather
- 2. In order to clear the throat, place the patient gently on the face, with one wrist under the forehead, that all fluid, and the tongue itself, may fall forward, and leave the entrance into the wind-pipe free.
- 3. To excite respiration, turn the patient slightly on his side, and apply some irritating or stimulating agent to the nostrils, as vetratrine, dilute ammonia, etc.
- 4. Make the face warm by brisk friction; then dash cold water upon it.
- 5. If not successful, lose no time; but, to imitate respiration, place the patient on his face, and turn the body gently, but completely, on the side, and a little beyond; then again on the face, and so on, alternately. Repeat these movements deliberately and perseveringly, fifteen times only in a minute. (When the patient lies on the thorax, this cavity is compressed by the weight of the body, and expiration takes place. When he is turned on the side, this pressure is removed, and inspiration occurs.)
- 6. When the prone position is resumed, make a uniform and efficient pressure along the spine, removing the pressure immediately, before rotation on the side. (The pressure augments the expiration; the rotation commences inspiration.) Continue these measures.
- 7 Rub the limbs upward, with firm pressure and with energy. (The object being to aid the return of venous blood to the heart.)
- 8. Substitute for the patient's wet clothing, if possible, such other covering as can be instantly procured, each bystander supplying a coat or cloak, etc. Meantime, and from time to time, to excite inspiration, let the surface of the body be slapped briskly with the hand.
- 9. Rub the body briskly till it is dry and warm, then dash cold water upon it, and repeat the rubbing.

Avoid the immediate removal of the patient, as it involves a dangerous loss of time; also, the use of bellows, or any forcing instrument; also, the warm bath, and all rough treatment.

Poisoning.

In cases of poisoning something must be done at once, before a physician can have time to reach the patient. The first effort should be to get the poison out of the stomach. This can be done by inducing vomiting. This should be done in every case, no matter what poison has been swallowed.

Endeavor to wash out the stomach in the following manner: a tablespoonful of common dry mustard is to be added to about two quarts of warm water; stir well and give to the patient by the tumblerful until he vomits freely. In some cases, half the mixture will be required before vomiting is induced. If no mustard is at hand, then use the warm water alone.

The patient should be undressed and put to bed. If the skin becomes cold and the breathing rapid, stimulants are required, such as bottles of hot water placed at the feet and in contact with the body, always taking care not to burn the skin.

In the case of known opium or morphine poisoning, in addition to the above the victim should be walked rapidly by a strong person on either side.

Acids (Oxalic, Sulphuric, Nitric).—Give large draughts of cooking soda in water, then wash out the stomach as directed in general rules.

Carbolic Acid kills very rapidly. Pour oil into the victim's mouth freely. Apply friction to the surface. Inject diluted whisky into the bowels. Children have been seriously poisoned by carbolic acid injected into the bowels to destroy pin worms. In such cases empty the bowels completely by warm soap suds injected into the bowels, and stimulate the victim by whisky and water in the stomach.

Aconite.—Wash out the stomach. Rub the entire surface of the body with a coarse towel. Inject a tablespoonful of whisky with an equal quantity of water into the bowels.

Antimony (Hive Syrup).—A draught of sweet oil or milk, followed by washing out the stomach. Give diluted whisky by the mouth and inject it into the bowels.

Arsenic (Fowler's Solution).—Draughts of milk or starch, followed by washing out the stomach. Stimulants injected into the bowels.

Alkalies (Potash, Ammonia).—Pour sweet oil or milk into the mouth freely; afterward wash out the stomach.

Belladonna.—Wash out the stomach. Apply friction to the surface. Stimulate with whisky.

Chloral.—Empty the stomach. Artificial heat to the surface. Stimulants by injection.

Chloroform.—If taken into the stomach, wash it out. If respiration threatens to cease, use artificial respiration and apply heat and friction to the surface. If inhaled, the victim should be placed head down while efforts are being made to maintain respiration artificially. Keep the body warm. All persons should make themselves familiar with methods of inducing artificial respiration, and remember to employ them with steady persistency in cases of drowning.

Mercury (Corrosive Sublimate).—White of eggs, or, if not at hand, give milk freely. Wash out the stomach afterward.

Opium (Morphine).—The greatest difficulty will be experienced in emptying the stomach, which may be facilitated by tickling the front portions of the throat with a feather. Compel the patient to walk rapidly if possible. If not, use the most vigorous friction to the surface without ceasing. If necessary, severe pain should be produced by sharply pinching the thumb nail until the patient responds. Hot black coffee. Artificial respiration. Children are frequently killed by soothing syrups. These should never be given except by medical advice.

Fainting.

The cause of *Fainting* is lack of blood in the brain; hence, the patient, in case of a faint, should be placed in a position favoring the flow of blood to the brain. The patient should be laid at once flat down upon a bed, a sofa, or the floor, without any pillow under the head; then cold water can be dashed in the face, which will have the desired effect.

Sunstroke.

In case of Sunstroke, unfasten and remove all excess of clothing and dash pails of cold water over the head and chest of the patient. As soon as ice can be procured make an ice-cap of towels, and cover the head with ice broken in small pieces. This treatment of cold to the head is to be kept up for many hours, or even for days in some cases. A physician should be called as soon as possible, but treatment should go vigorously forward until his arrival.

-*POSOLOGICAL TABLE.*-

MEDICINES, WITH DOSES FOR ADULTS.

For patients over 20 years of age, the full dose; from 14 to 20 years, $\frac{2}{3}$ of full dose; 7 to 14 years, $\frac{1}{2}$ dose; 4 to 7 years, $\frac{1}{3}$ dose; 3 years, $\frac{1}{4}$ dose; 2 years, $\frac{1}{4}$ dose; 1 year, $\frac{1}{4}$ dose.

Medicine.	Dose.
Arsenic, Fowler's Solution of	2 to 10 drops.
Aconite, Extract of	
Aconite, Tincture of	to 5 drops.
Aloes, Purified	to 5 grains.
" Pills of	to 4 pills.
" Pills of Asafœtida and	1 to 4 pills.
Asafætida, Mixture of	.½ to 2 tablespoonfuls.
" Tincture of	
" Pills of	
Atropia, Sulphate of	
Belladonna, Extract of	
" Fluid Extract of	
" Tincture of	
Bismuth, Subnitrate of	
Bromide of Ammonia	
of Potassium	
" of Sodium	
Buchu, Fluid Extract of	
Calibar Bean, Extract of	
Calomel	to 10 grains.
Camphor, Spirits of	5 to 15 drops.
Camphor Water	I to 4 teaspoonfuls.
Capsicum, Tincture of	10 to 20 drops.
Castor Oil.	
Chloral, Hydrate of	5 to 30 grains.
Cinchona, Sulphate of	
Cinchona, Compound Tincture of	
Cod Liver Oil	
Copper, Sulphate of	
Cream of Tartar	to to grain.
Croton Oil Digitalis, Extract of	
Digitalis, Extract of	/2 to 2 grams.
Dover's Powder	to to drops.
Epsom Salts	L' to a tablespoonfuls
Ergot, Fluid Extract of	
Gentian, Extract of	
Gilsemium, Fluid Extract of	
Hydrochloric Acid, dilute	t to E drops.
Hyosciamus, Fluid Extract of	
Hyosciamus, Tincture of	
Iodine, Compound Tincture of	
=	

20.31.4	
Medicine.	Dose.
Iodide of Potassium	5 to 30 grains.
Ipicacuanha, Fluid Extract of	2 to 30 drops.
Ipicacuanha, Syrup of	to 4 teaspoontuls.
Ipicacuanha, Troches of Morphine and.	I to 10 troches.
Iron, Reduced	1 to 2 grains.
Iron, Pyrophosphate of	2 to 5 grains.
Iron, Tincture of the Chloride of	
Lactic Acid	15 to 30 drops.
Laudanum	15 to 40 drops.
Lead, Sugar of	½ to 5 grains.
May Apple, Resin of	1/6 to 1/4 grain.
May Apple, Extract of	3 to 8 grains.
Muriatic Acid, dilute	5 to 10 drops.
Morphine	1/8 to 1/3 grains.
Magnesia, Sulphate of	to 2 tablespoonfuls.
Mustard, Ground	to 2 teaspoonfuls.
Nitre, Sweet Spirits of	1/2 to I teaspoonful.
Nitro-Muriatic Acid, dilute	2 to 10 drops.
Nux Vomica, Tincture of	
Opium, Extract of	
Opium, Tincture of	15 to 40 drops.
Opium, Camphorated Tincture of	to 2 tablespoonfuls.
Paregoric	to 2 tablespoonfuls.
Potassium, Bicarbonate of	5 to 20 grains.
Potassium, Bitartrate of	5 to 60 grains.
Potassium, Bromide of	5 to 20 grains.
Potassium, Chlorate of	5 to 20 grains
Potassium, Iodide of	
Potassium, Liquor of	2 to 20 drops
Pepsin	t to to grains
Quassia, Tincture of	to 60 drops
Quinine	to to grains
Salicin	to 10 grains
Senna, Confection of	t to a tenenconfule
Senna, Fluid Extract of	to 2 teaspoonful.
Soda, Bicarbonate of	tablespooniui.
Soda, Salicylate of	5 to 30 grains.
Squill, Syrup of	to to 30 grains.
Struchnia Sulphoto of	1 4- 1 -f
Strychnia, Sulphate of	to to durant
Valerian Tinature of	5 to 10 grops.
Valerian, Tincture of	. 10 2 teaspoonfuls.
Veratrum Viride, Tincture of	to 4 drops.
Zinc, Oxide of	½ to 5 grains.



its architecture into the Byzantine, which became tinged with orientalism, indicated in its richness of color and decoration, and the Early Christian and Romanesque, both of which are more simple. Among other styles which strongly influence modern building are the Gothic, and the Renaissance, which is a revival of Grecian architecture adapted to modern requirements. Other styles, which are very seldom resorted to, are the Egyptian, marked by sloping walls, great solidity, and ornamentation in hieroglyphics and the lotus-flower; the Assyrian, of fantastic design, with huge flights of stairs and lengthy terraces; the Chinese, characterized by curling eaves and a succession of roofs tapering one above the other; the Indian, exemplified by temples cut from the solid rock, and the Moorish, richest of all in its combination of light colors and elaboration of minute and beautiful details.

PRACTICAL ARCHITECTURE.

A commendable tendency of the times is to combine in all things beauty and utility. A house is the physical exponent of the standing and character, the tastes and aspirations of its owner, and nothing is more worthy of a man's thought and attention than the structure and its surroundings which he calls his home. In building a modern home in the country, it being always understood that harmony of outline and proportion is sought in connection with more indispensable requirements, the follow-

ing excellencies must be constantly aimed at: Convenience of arrangement; facility of construction and repair; protection from heat in summer and cold in winter; means of ventilating and warming; conformity with the surrounding scenery. These are the leading ideas which should guide the builder, and, as the question of convenient arrangement has an external as well as an internal application, the first matter to receive consideration will be

The Choice of a Site.

In making the selection the things to be avoided should receive attention. Among these are a location on the north or west side of a hill, and proximity of sluggish streams, marshes, bogs, swamps, the miasma from which will poison the atmosphere and certainly entail liability to disease upon those breathing it. The steep side of an evenly rising hill offers an

objectionable position when other hills of equal height and like conformation surround it, cutting off the necessary amount of sunlight. The principal rooms of the house should be so located as to be well exposed to the sun's rays. The dining-room should get the benefit of the morning sun; the principal chamber and the sitting-room should be located so as to invite the sunshine through both the morning and the afternoon. Either the morning or the afternoon sun should be secured for the other rooms, parlors, etc., while the kitchen, bath-room, storerooms, etc., can be

A RURAL HOME.

given the locations which are least favored with solar rays.

An elevated site presents many great advantages. It invites the sunlight to come early and stay late. It places at command a sweeping view of the surrounding country. It insures the presence of pure and salubrious atmosphere, and gives the best facilities for draining. With such a site, protected from the western and northern winds by belts of timber or thatches of higher ground, as near an approach as is possible to absolute comfort and healthfulness, as far as location can govern them, will be secured.

Conformity with the surrounding scenery is an object that should not be overlooked. When possible place the house so that the occupant, no matter which way he will direct his glance, may be greeted by a pleasant landscape, whose natural

advantages can be greatly improved by the planting here and there of trees or shrubs. These, too, may be advantageously employed in the ornamentation of the actual site of the building, care being taken that they should not be placed too near the building so as to swell the volume of dampness to an unhealthy extent.

Building a Home.

After the farmer has made up his mind that he will build a home, the next thing to be definitely settled is the kind of a house he intends to erect. Whatever changes in the main plan are to be made are accomplished easily and at no expense before the actual building has been begun. Therefore let the builder thoroughly embody in his plans what he wants in his house, where he wants it and how he wants it, before he even goes so far as to stake out the foundation. In this preliminary

work, which will be found to be full of pleasure, an invaluable adviser will be found in the wife who is to preside over the home when it is finished. Her keen intuition and ready inventive faculty will find a quick solution for any of the agreeable puzzles which arise from time to time in planning a house. Convenience of arrangement, which is the creator of home comfort, must be studied at every point when the work of building the home on paper is in progress. These desiderata should in no instance be made subordinate to appearance. With the

exercise of a little ingenuity both comfort and beauty may be preserved in combination. In the question of facility of construction and repair many local issues will of course take part. Availability and cost have a good deal to say on this subject. Other things being equal, stone provides the handsomest and most durable building material, as well as the most artistic, its unembellished surface always harmonizing with the scenery which surrounds and the foliage which enfolds it. Next comes brick, which, though lacking the lasting power and beauty of stone, presents points of utility and permanence of great value. Lastly, wood claims attention, and on its behalf are urged its cheapness and dryness, its general healthfulness, its facility of ventilation, the readiness with which it is worked, and its pronounced capability of ready ornamentation. The

only offset to all these advantages is supplied in its perishable nature; but with care this may be greatly modified. No home presents a more cheerful exterior than that of wood painted in the bright and cheerful tints now in vogue. A propos of painting, a great mistake is occasionally made by the owners of wooden buildings when they seek to have the surfaces converted into a supposed imitation of stone or brick. At a distance the imposture may succeed, but a closer view dispels the thin illusion, and the cheap effect creates anything but the impression which has been aimed at so awkwardly.

As a general, a very general rule, the publishers of such books as have hitherto attempted to handle the question of modern architecture in a practical way have been content to supply their readers with some good general advice on the subject o the selection of the location and material of a house, after which they bring the subject to a sudden and unsatisfactory ending, by advising the intending builder, when he has got thus far, to employ an architect and entrust to his judgment and discretion, paid for by a large percentage on the actual cost of the house, the completion of the structure. Such is not the intention of this book. It has given the house-builder advice on the subjects mentioned, and, having led him up to the point where planning ends and construction begins, it will not there leave him. In the plans and specifications to be found further on are provided clear and comprehensive data, by following which any farmer, with the assistance of one or more competent carpenters, will be able to construct the house which he has planned.

Before these are brought under consideration, an estimate, showing just

How the Money is Applied

in the building of a \$1,500 house, will provide an idea of the cost of the various materials used in its construction, and will form a reliable basis of calculation for houses of less or greater

cost.
Excavation, 45 yards at 15 cents,\$ 6.75
Brick-work, 13,600 at \$8.00,
Joists, 63.00
Flooring, 2,000 feet,
Rafters, 57.00
Studding and framing, 108.00
Sheathing, 4,500 feet,
Weather-boarding, 2,500 feet,
Shingles and shingling, 1,900 at \$5.00 95.00
Gutters and cornices, 196 feet feet at 30 cents, 58.80
Doors, with hardware, 13 at \$3.00 104.00
Windows, complete, 14 at \$7.50 105.00
Bases, 460 feet at 6 cents,
Porches and stairs, 58.00
Painting and glazing,
Galvanized iron and tin work,
Lathing and plastering, S6S yards at 20 cents,
Creation and money
6
Total, including labor, etc.,\$1,539.05

Water.

A full supply of water is of essential importance, and the nearer it can be brought to the house the better; and best of all if it

can be introduced right into the house. In hilly localities a spring may be found whose elevation will enable its waters to flow through the whole house. Failing such a convenient ally of domestic comfort, a hydraulic ram may be employed to force the water through the system of pipes with which the house is supplied. The ventilation of water is essential, and for this purpose cisterns should be left exposed and uncovered. Without good drinking-water good health will be unattainable. Several simple but reliable tests of its quality are given, among which the following are worthy of attention: Good drinking water cooks vegetables well, especially the dry kind, such as peas and beans. To the eye it should be limpid; to the nose, scentless; to the taste, insipid. After drinking in moderation no sensation of weight should be felt in the stomach. If the water fulfils all these conditions it may be relied upon as excellent. Avoid the use of rain-water caught on the roof and saved in cisterns, as, being impregnated with dust, soot, and other impurities, it is necessarily impure. By filtration it can be rendered drinkable, and it is a good plan to build your cistern in two compartments, separated one from the other by a watertight wall of brick, with a space left in the bottom for a box filled with alternate layers of gravel, sand and powdered charcoal. The water will be filtered by passing through this box, and be made safe and pleasant for use.

When it is decided to have a

Cellar

care should be taken to so construct it that the dangers arising from foul air, through bad ventilation and lack of the purifying sunlight, are reduced to a minimum. A cellar which is intended for the storage of vegetables through the winter should not be connected with, certainly never directly beneath the dwelling. In any case it should be kept scrupulously clean, as the foul gases given off by decomposing vegetables are highly detrimental to health.

A few dollars expended on an

Ice-House

will be found to be one of the best investments the farmer ever made. Up to within comparatively few years ice was invariably stored underground, but recently it has been found that the crystal coldness can be as well preserved in a house built above ground, provided only that it is constructed on a plan which secures non-conduction of heat into the interior. A very good plan for an efficacious ice-house, to cost only \$25, can be given: It should be built of boards with double walls filled with sawdust, or chaff, or fine straw. A large ventilating window is placed at each end at the top; these windows should always be open. Care should be taken that all the saw-dust is pressed solid, so that no cavities are left. An ice-house with one apartment, 8 by 10 feet, and 6 feet high, will keep ice enough for a moderate family. To build such a house will be required 216 square feet of inch-thick weather-boarding, \$3.60; 132 feet of rafters, 10 feet long, 4 by 2 inches, \$1.80; 103 feet of slats, 7 feet long, \$2.10; two doors, \$2.00; shingles, 1,150, \$2.90. Total, \$25. The employment of materials which are nonconductors of heat and the securing of proper drainage are the great points to be looked after in building an ice-house.



THE LATEST DESIGNS FOR COTTAGES AND DWELLINGS.

HE principal motive in this work is to give moderatepriced dwellings, ranging from \$1,000 to \$6,000, one or two, however, touching figures considerably higher. We realize that the architecture of the future will be more quiet and less florid than it has been for several years past; we have, therefore, endeavored so to treat the designs that they will always look well. Careful study has also been given to the planning, the arrangement being comfortable and convenient. We consider it better taste to avoid flimsy and trashy details in the construction of our homes; the study should be more for repose and harmony and less for ostentatious display. The picturesque roof is the principal feature in modern cottage architecture, and is coming to be treated more simply than formerly. Many people raise the objection to the picturesque roof, that it will get out of repair easily. But there is no reason why a steep roof need get out of repair sooner than a flat one, providing it is properly constructed.

The question naturally arises, in looking over the designs, "How much would such a house cost?" This question we anticipate, and in some cases estimates are given. But it is possible to do so in a general way only, as the expense of a building depends entirely upon the specifications and details, and on the cost of materials and labor in the location where the building is erected.

It does not pay to attempt to build too cheaply, although economy should be carefully considered. Take, for instance, plate A. This cottage might, by leaving out a good foundation wall, the cellar, cistern, etc., be built for \$600 or \$800. This would necessitate setting the house upon cedar posts, boarding up the under-pinning, and otherwise "skinning" it, thus making a trap for infectious diseases, not fit for a beast to inhabit, instead of a comfortable home for a family to dwell in. On the other hand, if the same cottage is built with a good foundation wall, the cellar well drained, the frame warmly sheathed and otherwise specified to be in good condition, comfortable and healthful, it will cost from \$1,200 to \$1,400.

The designs and plans immediately following, numbered A to L, are by Mr. J. H. Kirby, of Syracuse, N. Y., and are selected from a series of twenty-four designs published by him in 1885, and constituting a "Portfolio of Cottages" which does credit even to an architect of Mr. Kirby's reputation. These designs are in accordance with the best modern taste, and represent that union of comfort and artistic beauty which is now demanded in the better class of home architecture.

Design A shows a small frame cottage suitable for a family of modest means, but possessed of culture and refinement. By reference to the floor plans it will be seen that the arrangement of rooms consists of a living-room, dining-room, a small bedroom and a kitchen on the first floor. The stairs connect the living-room with the second story, and are what are known as box stairs. This cellar is reached by stairs immediately under the main stairs. This general arrangement is usually quite economical. The house is approached through a commodious porch, which sweeps down from the main roof, and seems to invite you to come under its shelter. The balcony at the left is entered through a window extending to the floor of the parlor. The kitchen is reached through a side porch. The second floor contains three chambers, with closets from each. This cottage gave excellent satisfaction when built.

Design B .- This cottage seems to suggest to us a homehome where the little child basks in the sunshine of a mother's love, and where the broad, sheltering roof seems a guarantee of comfort within. This cottage is also arranged so that the cost may be kept at the lowest limit. On entering the hall the stairs mount to the second story. From the hall we enter the parlor, or living-room, which contains in one corner a cheerful fireplace. A kitchen and bed-room take up the remaining space allotted to the first floor. The cellar is reached by a stairway under the hall stairs. The second floor has a small hall and three chambers with accompanying closets. The entire exterior surface is covered with sheathing or matched boards, to make it warm in winter and cool in summer. Upon this sheathing in the first story are placed feather-edge clapboards showing about three inches to the weather. The upper part or second story is shingled. The general effect of this cottage when painted with warm, harmonious colors is very pleasing.

Design C.—This design has an individuality about it which at once recommends it. While it is comparatively ornate, it is free from any of the flimsy detail which many associate with the so-called Queen Anne style. The broad veranda, extending across the entire front of the house, leads us into the vestibule or small had, at of which ascend the stairs to the second floor. The sides of the stairs are neatly wainscoted, and have a rail attached to same. The dining-room and living-room are connected by an archway. At the left of the dining-room is a small bed-room, which the architect has not placed there to please himself, but because most people building a country house seem to demand something of the kind. "So nice in case of sickness," they say.

It usually turns out, however, that they seldom use this little room for a bed-room, but turn it into a sewing-room, or something of that sort.

Design D .- This design is somewhat more extensive than any of the foregoing. The house itself is even more pleasing than the perspective drawing of it. In this building we get the soft, harmonious combination of colors, which, taken in connection with the general outlines, makes an attractive appearance. In this example, as well as in some of the others, the porch, or veranda, is a special feature. The hall staircase has an ample landing, which is always desirable, and it will be noticed that the principal rooms and hall can be easily thrown together. The living-room contains a fireplace, and between the kitchen and dining-room there are two doors, each double-hung, to swing either way. This feature prevents steam and the smells of cooking from passing to the dining-room. A bed-room is arranged on the first floor. The kitchen is connected with second story by a back stairway. In the second story we get five chambers, with bath-room, having bath-tub, hand-basin and water-closet. The balcony to the right, on second floor, is reached through the chamber window. The staircase window has cathedral glass laid in lead mullions.

Design E.—The exterior of this design is perhaps more remarkable for oddity than anything else. The lower part is clapboarded, and the upper part is shingled. The interior, though small, has the benefit of quite a spacious hallway, with a nice landing staircase. A corner fireplace is also a feature of the interior.

Design F.—This design embodies the usual arrangement of rooms, the hall having a landing staircase. The hall, parlor and living-rooms are connected by means of sliding doors. The exterior is plentifully supplied with verandas, balconies, etc. The rooms are nearly all of very fair size, and are all conveniently located.

Design G was arranged for a summer cottage, and was intended to accommodate two or three families. The living-room

is made large enough to be used in common, out of which the open staircase connects with the upper floor. Back of the living-room is a kitchen. The house is well supplied with bed-rooms, and has a wide veranda extending all around it. On either side above the veranda are two large balconies. The interior is designed to be left unfinished.

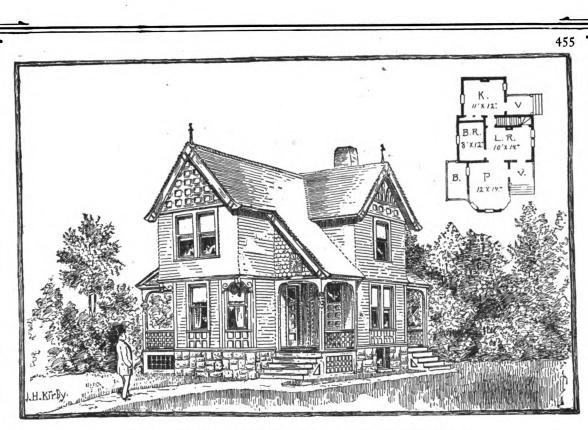
Design H.—This cottage is attractive on the exterior, and desirable in the interior. The large reception hall forms a prominent feature of the inner arrangement. Its connection with all the other principal rooms is such that by means of sliding doors all of the rooms can easily be thrown together. This cottage would cost about \$10,000, much depending, however, upon the manner and style of finish.

Design I.—As a frame dwelling design I has given most excellent satisfaction. A broad veranda spans the entire front, from which we enter the large reception hall. This hall has a fireplace, and is connected by archways with the landing staircase, hall and parlor. The staircase is a beautiful feature in this house. A very desirable arrangement is the connection of kitchen with front door by means of a second hall. The second floor contains chambers of good size, with spacious closets, and good bath-room and water-closet.

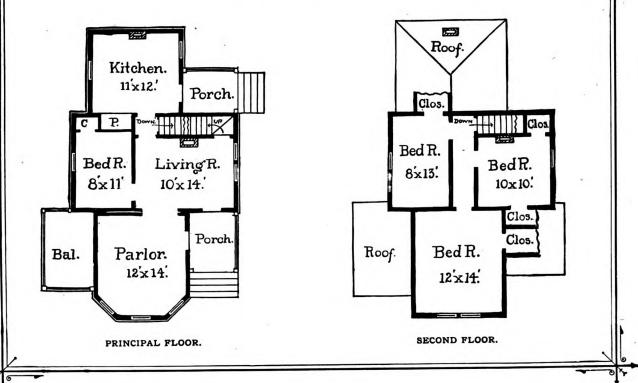
Design K is a brick dwelling, and adjoins design C. It will be seen, by reference to floor plans, that the hall enters the center of the house, and communicates with a cross or transept hall, which is lighted by means of an elegant cathedral glass staircase window. A back hall with an open staircase is a good feature. The rooms are so arranged that all are pleasant and commodious.

Design L gives us a brick building of semi-detached dwellings. This house is three full stories high, besides the attic and cellar. The reception hall forms a desirable feature, and the staircase is reversed from the usual order. The rear part of the house has no stairs, but is furnished with an elevator, extending from cellar to attic. On the second floor is a large bath-room, which takes the place of one of the rooms marked as bed-room. The first floor is finished in cherry, the second in oak, and the third in pine.



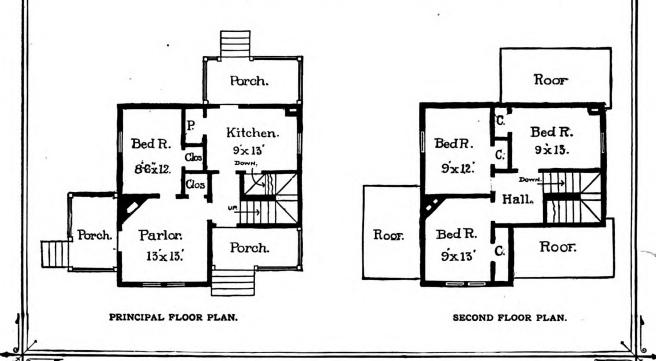


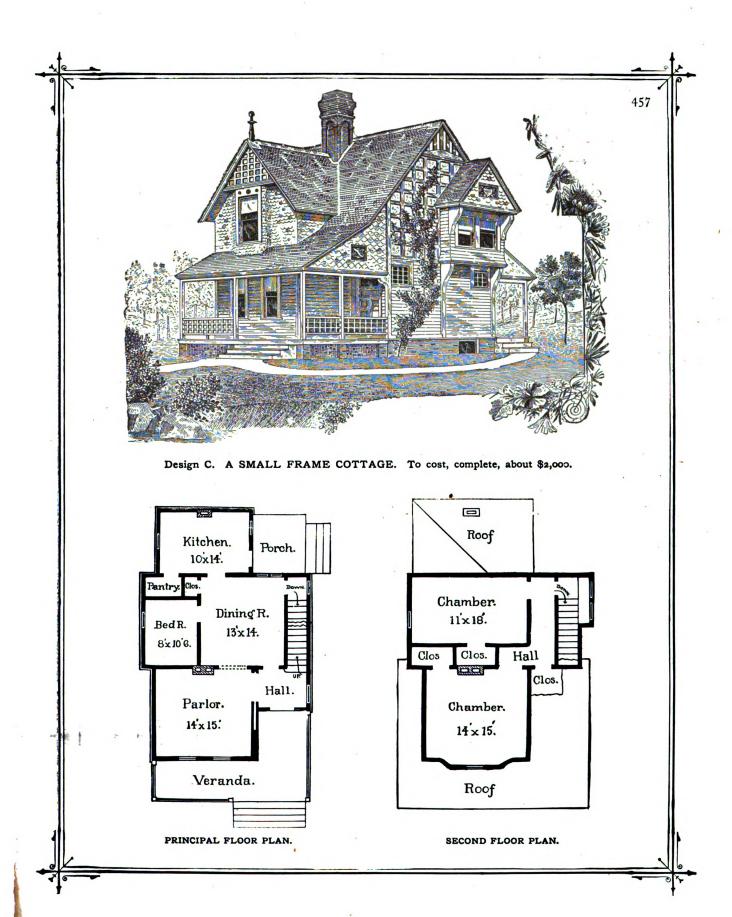
Design A. A SMALL COTTAGE. To cost, complete, about \$1,400.

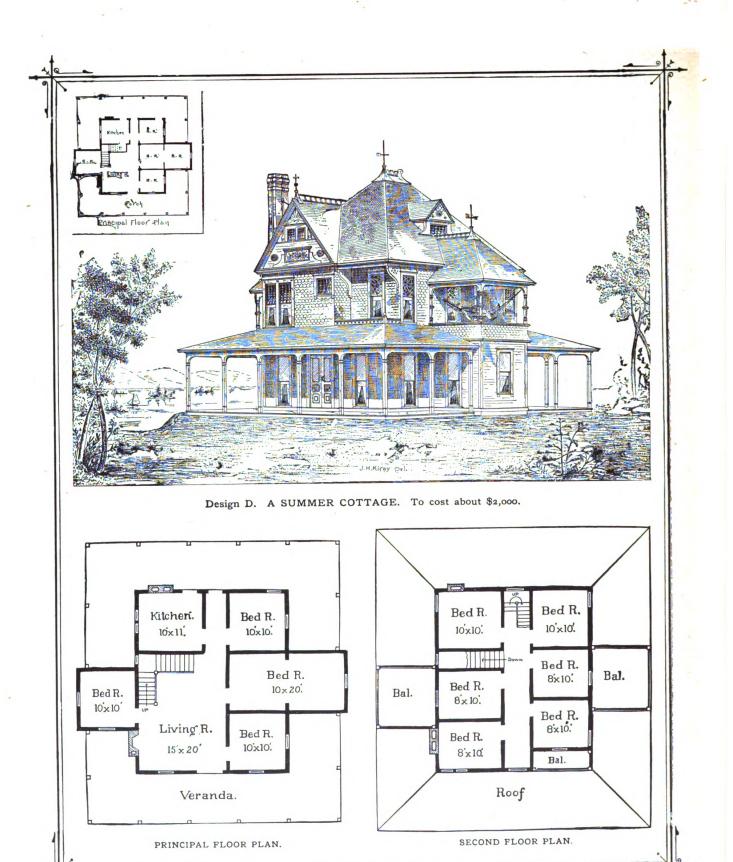


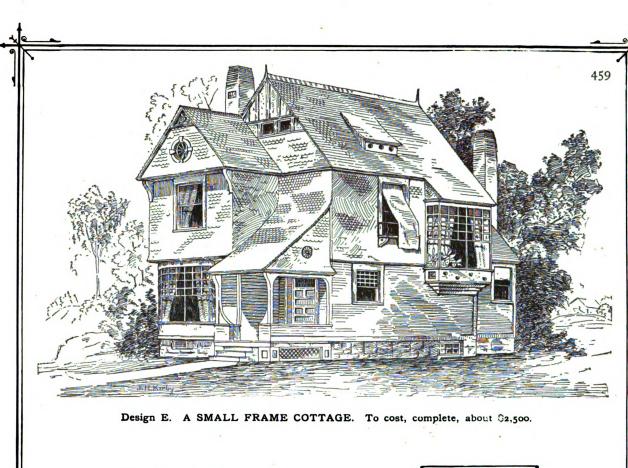


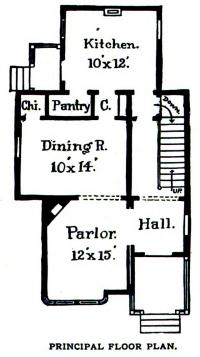
Design B. SMALL COTTAGE. To cost, complete, about \$1,500.

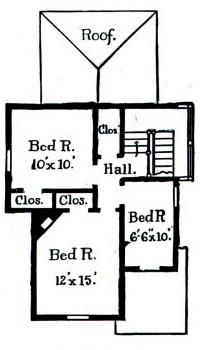




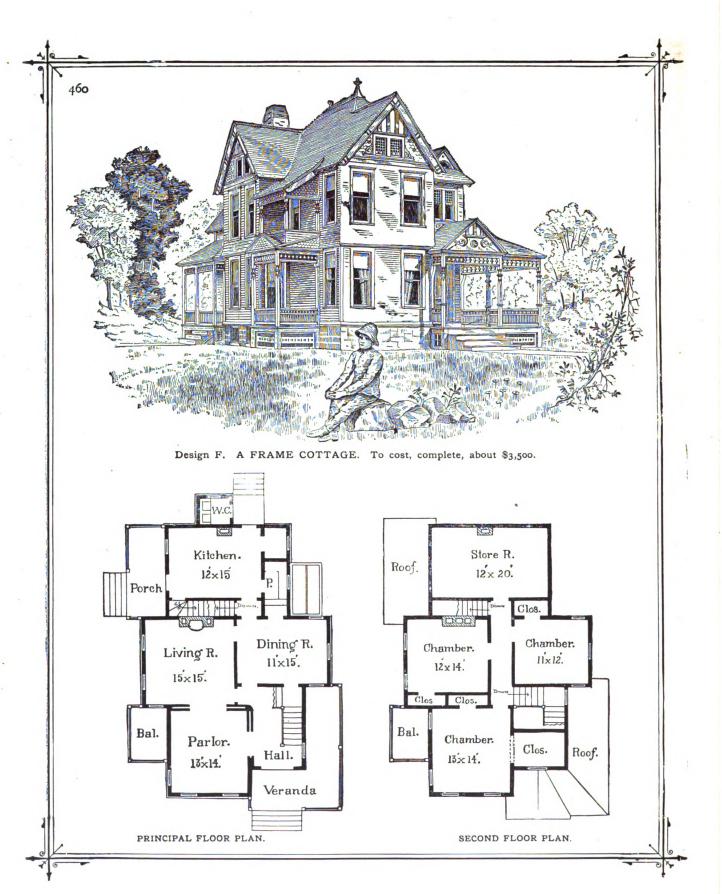


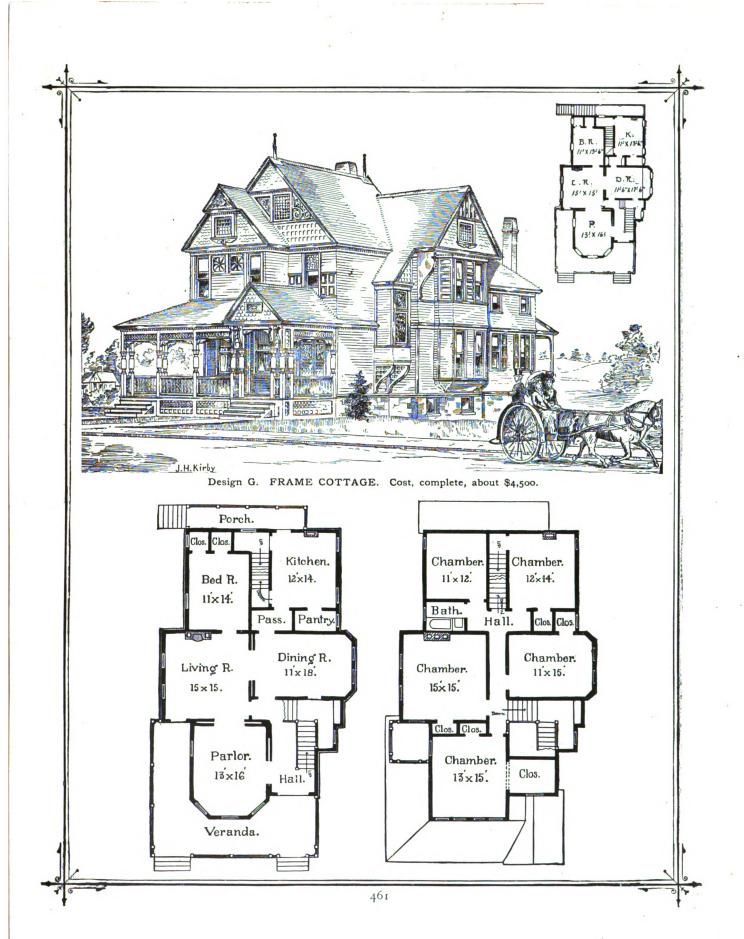


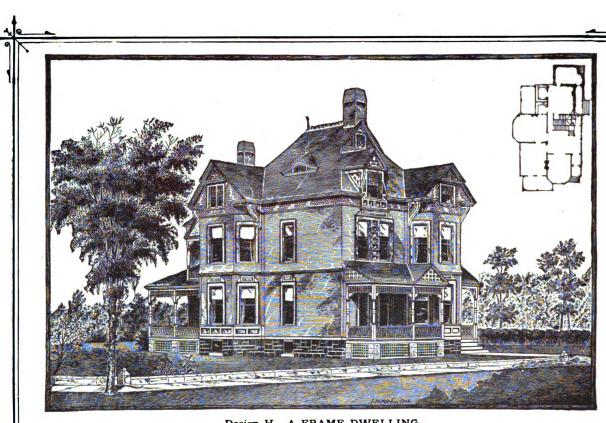




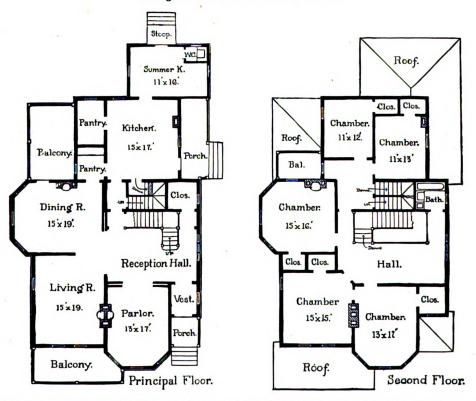
SECOND FLOOR PLAN.

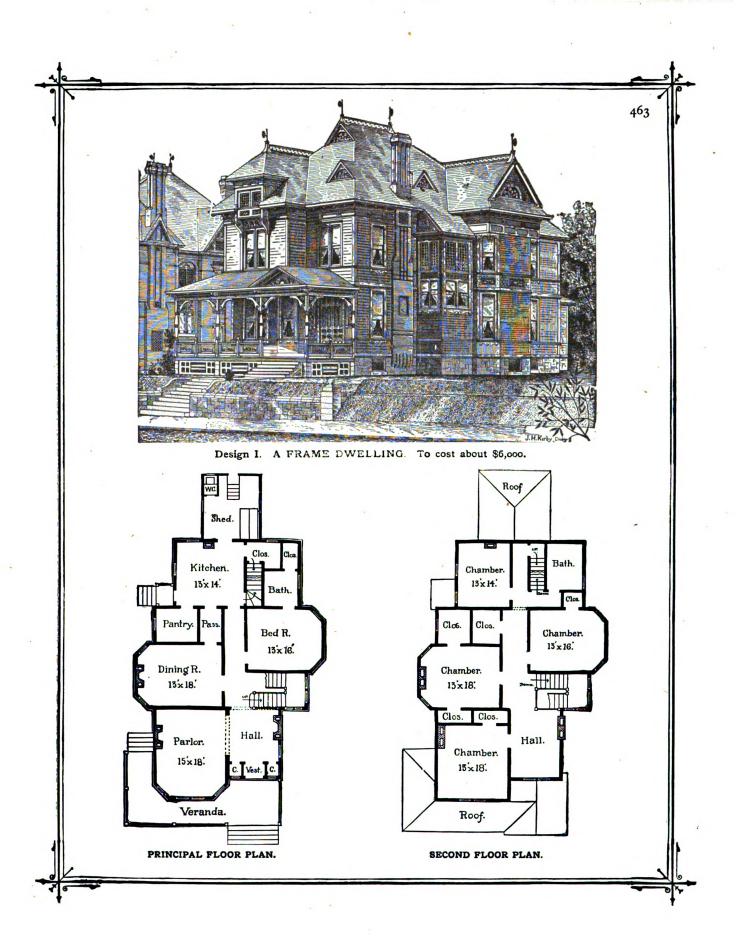


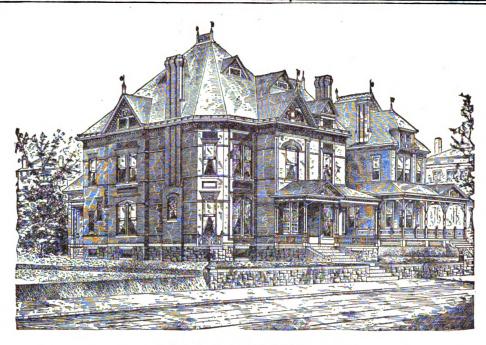




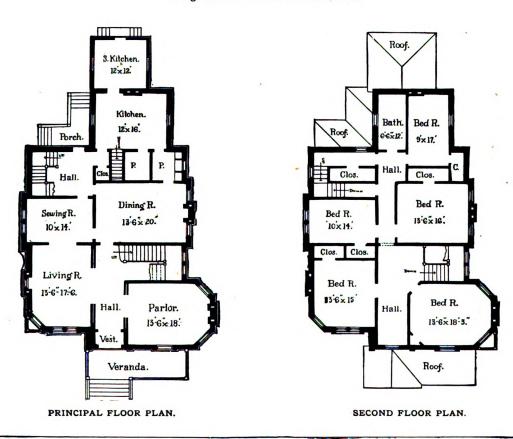
Design H. A FRAME DWELLING.

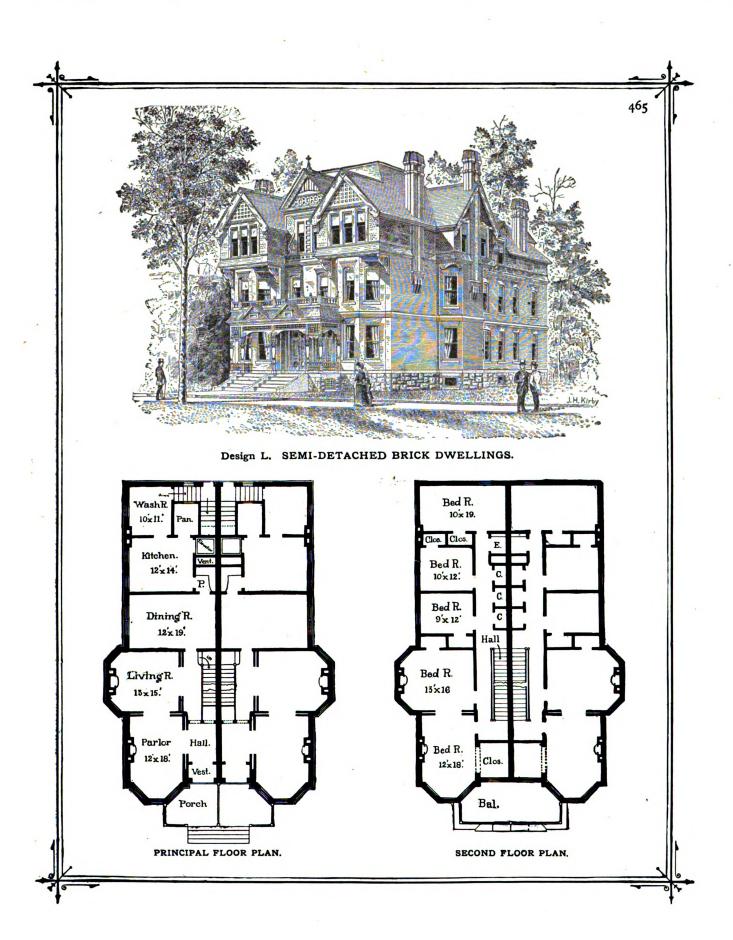


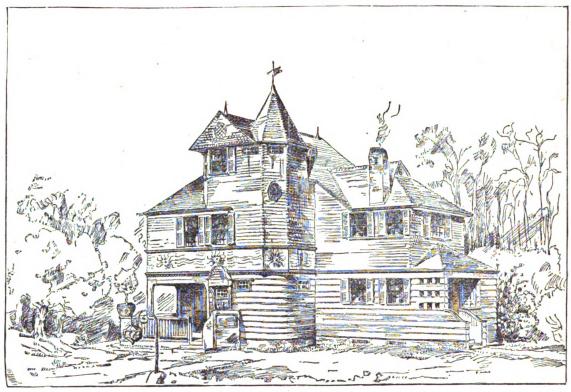




Design K. A BRICK DWELLING.







A \$3,000 PRIZE COTTAGE.—ELEVATION.

The American Architect, in 1883, offered a prize for the best original plan of a cottage approximating in cost \$3,000. A large number of architects entered the competition, but the jury decided that the accompanying designs, by W. E. Chamberlain, of Cambridgeport, Mass., were incontestably worthy of the first place. While there is nothing that can be called eccentric in the architecture, it is a fresh and unexpected conception. There is a certain distinction which removes the design from the ordinary type, suggesting that the occupant of this cottage has more social prestige than his neighbors.

The plan provides a piazza which is partially roofed for summer, while a vestibule to the hall answers the requirements of a winter dwelling. The parlor and dining-room communicate with each other and with the hall. The kitchen has an ample porch, which would, perhaps, better have been utilized for a shed or wash-room. There is a cellar under the whole house. A furnace is depended upon to heat the various rooms, except the parlor and dining-room, which have open fireplaces. By changing the position of the back stairs in the second-floor plan to the left side of the kitchen, some valuable space might be gained. The main stairs continue up in a tower to the attic, where another room is obtained.

The house is supposed to be built in Allston, Mass., near Boston. Labor is as cheap there as anywhere. The Boston market is at hand, railroad accommodation easy, and stonework cheap.

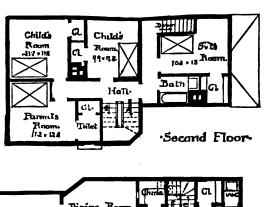
The cellar walls are of 18-inch rough stone up to grade, and then 18-inch brick wall up to sill.

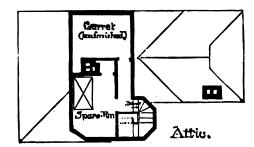
Walls of first story covered with pine "siding," broad horizontal sheathing 10 inches wide.

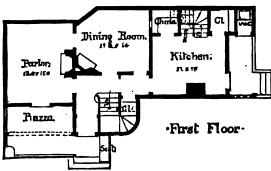
Above second-story floor-beams shingles everywhere, left untouched by paint or stain, to become gray with time.

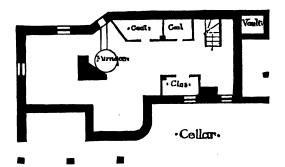
Rough boarding and lower floors of hemlock. Frame of spruce. Plaster, two-coat work. No wainscoting or hard-wood finish. Mill windows and doors.

Sizes: Sills, 4 inches by 6 inches; plates, 4 inches by 6 inches; wall-studs, 2 inches by 4 inches, 16 inches on centres; partition-studs, 2 inches by 3 inches, 16 inches on centres; first-floor beams, 2 inches by 9 inches; second-floor beams, 2 inches by 10 inches (the reason for this is that the second story projects in two places, and has many unsupported partitions to carry); third-floor beams, 2 inches by 8 inches; rafters, 2 inches by 8 inches.









Estimate of Cost.

Except for stone and brick work, the prices quoted for material are cost prices, not counting labor or builder's profit, which will be found added at the end. On the lower floor, without including piazzas, there are 817 sq. ft. At \$3.50 per sq. ft., the house would cost \$2,859.50. This, with piazza-work and the architect's commission, would bring the figure very near \$3,055.55, as computed.

EXCAVATION, 5,500 cu. ft. = 204 cu. yds., @ 224
FRAME.
Sills, plates, outer walls and in-
ner partitions2,700
First floor
Second floor
Third floor 300
Second-floor ceiling-joists 648
Attic ceiling-joists 220
Roof1,166
Total, @ \$16
ROUGH OUTSIDE BOARDING. SQ. FT.
First floor
Second floor
Second floor
Roof
4,297
Outs, Windows.
First floor, 14
Second " 12
Third " 4
30 @ 22 sq. ft. = 660
Total, @ \$13

ROUGH LOWER PLOORS, SQ. FT.	
First floor	
Second floor	
Attic250	
Total, @ \$131,558	20.25
	•
OUTER COVERING. SQ. FT.	
First floor, siding @ \$30964	28 ca
Second floor, shingles	-0.9-
Third and gables, shingles424	
Roof1,405	
Total	
120 ft. to 1,000 shingles, 22 M., @ \$3.75.	80 =0
120 1c. to 1,000 shingles, 22 hr., 42 43./5.	02.50
WINDOWS, 24 large, including sash,	
glazing, weights, line, sash-fast,	
frame architraves and blinds, @ \$5.50	132.00
7 small ones, @ \$3.25	22.75
Doors, 25, including nardware, thresh-	
olds and architraves, @ \$6.50	182.00
STAIRS, all told	140.00
NAILS	35.00
UPPER FLOORS, 1,611 ft., @ \$30	48.33
None in garret.	
D	
PLASTER (including lathing).	
WALLS.	
First floor	
Second floor	
Third door	
Third floor 712	
Total6,537	
1 Otal	

OUTS. SQ. FT. Lower floor, 3 outer doors
Total
6,537—1,561=4,976 sq. ft.=553 sq. yds., @ 18\$\$ 99.54
CEILINGS 30,25
PLUMBING (bath-room and sink only) 150.00
GUTTERS, 75 ft., @ 126 9.00
CONDUCTORS, 60 ft., @ 10# 6.00
PLASTER BAND on exterior (architect
_ to do the "scratch-work") 8.00
FURNACE 150.00
PAINTING (on outside, the lower story
and all mouldings will be painted; shingles left as put on)
LABOR
Two Fireplaces (owner already has
tiles) 50.00
Total\$2,641.14
Builder's Profit, 10 \$ 264.14
ARCHITECT'S COMMISSION, 5 \$ 150.00
OTHER EXPENSES 150.00
Total\$3,055.55

conventional main hall and stairway are dispensed with, and instead there is provided a vestibule entrance outside the house, from a part of the veranda. This makes the stairs less conspicuous, with approaches at the foot from two directions, in that way serving well for general use from the main house and as a private stairway from the rear extension.

The exterior presents an angular and picturesque appearance. Protection from storms is afforded the windows and entrances by the extensive veranda and other projections. Desirable shade is also fur-

nished by the same means. cresting of ornamental iron along the main ridges, properly

connected with ground rods, serves as a protection against lightning. The window openings, having a single light of plain glass in the lower sash, contain in the upper one several smaller tinted lights, which, in a variety of pleasing colors, produce a most cheerful effect.

In the first story the height of ceilings is ten feet. There are four goodsized rooms, each with outlooks at their sides and ends. The main entrance is from the front veranda, through a good-sized vestibule, which is lighted at the side by a cluster window of tinted glass, and has side and end doors opening to the parlor and

This structure is in the Queen Anne style, now becoming so veranda. There is a large open fire-place, and doors commun-popular, and presents a neat and attractive appearance. The cating with the sitting and dining-rooms. The sitting and din-

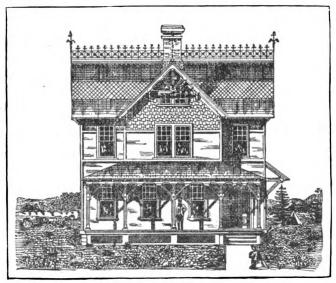
ing-rooms adjoin each other through sliding doors, which admit of their being used together, as occasion may require. The kitchen is convenient, well-lighted, has a large fire-place, with range, and adjoins a pantry. The rear entrance, or porch, is also reached through a door from the sitting-room. The stairs to the cellar and to the second story are placed between the dining-room and kitchen, and may be reached from each direct.

In the second story the height of ceiling is nine feet: This story has a central hall, three chambers, three closets and a trunk-room. The stairs

The height of ceiling in the attic is three feet at the plates or sides, and follows the rafters to the full height of seven feet. A hall and three chambers may be finished on this floor, with the doors and windows placed in the centre of the ends of each.

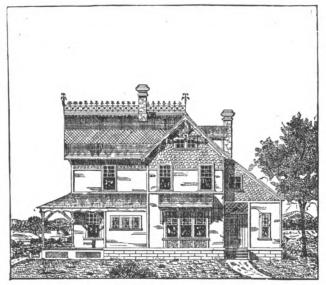
The cellar equals the first story in area. It has an outside entrance, five windows, and stairs leading to the first story. Height of ceiling, 61 feet.

The foundations and chimneys of this house are of hard brick, laid in good mortar. The frame is of sawed spruce, with siding, for the body, of clapboards laid on thicknessed sheathing and building felt. The gables and frieze courses are of red-wood shingles, also



FRONT ELEVATION.

The roofs are of dark slate, and a | to the attic are placed above those of the first story.

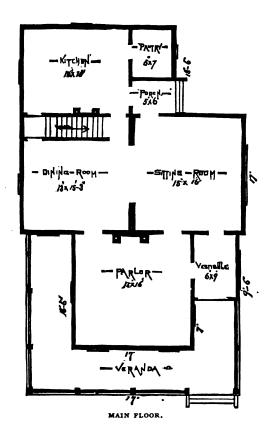


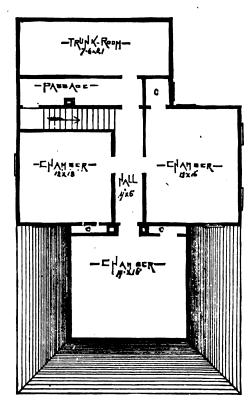
SIDE ELEVATION.

sitting-room. The parlor has four windows, facing three direc- | on sheathing. The main roof is of dark slate, laid on sheathing tions, each protected from storms, and agreeably shaded by the | and tarred felt. The veranda roofs are also slate, laid on

inverted pine flooring. The flooring outside is of 11 by 41-inch T and G pine; inside, of 11 by 7-inch T and G spruce. The windows have plank frames, with 11-inch sash, glazed with second quality French glass. The doors are of seasoned pine, panelled and molded. The inside finish is clear pine, reeded,

with blocks. The inside walls and ceilings are hard-finished on two coats of brown mortar, and the principal rooms of the first story have neat stucco cornices. The painting is two-coat work, of selected colors. The designs for this structure are from the American Agriculturist.





SECOND FLOOR.

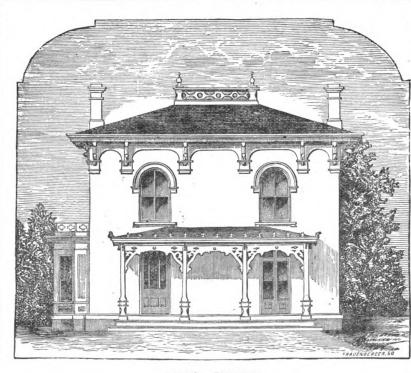
Estimate of Cost.

160 yards excavation, at 25¢ per yard\$ 40.00
15,000 brick, foundation and chimneys (complete) at \$: per M. 225.00
32 feet blue stone, steps and sills, at 30¢ per foot 9.60
1,000 yards plastering, at 30¢ yer yard 300.00
210 stucco cornices, at 20¢ per foot
5,000 feet timber, at \$20 per M 100.00
100 joists, at 16¢ each
250 wall strips, at 11¢ each 27.50
4,500 feet sheathing, at 3\$ per foot
450 clapboards, at 16¢ each
21 bunches shingles, at \$1.50 per bunch 31.00
24] squares slate, at \$9 per square 220.50
950 feet outside flooring, at 5¢ per foot
2,650 feet inside flooring, at 4¢ per feet 106.00
5 cellar windows, at \$3 each 15.00

23 full-sized windows, at \$8 each	\$184.00
11 half-windows, at \$5 each	
29 doors, at \$7 each	
3 stairs, at \$10 each	
Veranda and porch finish	50.00
5 kegs nails, at \$4 each	
4 closet finish	20.00
Mantels	30.00
Tin gutters and leaders	20.00
Carting	20.00
Painting	180.00
Carpenters' labor (not included above)	240.00
Pump, sink and incidentals	60.00
Total, complete	2,499.60



DWELLING-HOUSE.—Design 1.



DESIGN I .- ELEVATION.

As long as the argument is indisputable that there is in a | room, 10.6 by 15; G, G, closets; H, dining-room, 12 by 22; I, square house, in proportion to the amount of outside covering, I, china-closets; J, back porch, 6 by 7.6; K, veranda, 5 by 22;

more room than in one of almost any other form, a large majority who are about to build seem to have determined to adopt that shape. The dwelling here illustrated

GROUND FLOOR.

0, cupboard; P, pantry, 7.6 by 8; Q, stairway to cellar; R, stairway to back chambers; S,

wood - room.

L, kitchen, 11

by 12.6; M, sink; N, cis-

tern - pump;

was built on a slight elevation.

PLAN OF PRINCIPAL STORY.

A, veranda, 6 by 25; B, hall, 10.6 by 15; C, parlor, 15 by 19.6; D, sitting-room, 15 by 19.6; E, book-closet; F, bed- room, store-room and balcony.

THE SECOND STORY.

The upper floor of this structure comprises a hall, three chambers, four closets, stairway to attic, two bed-rooms, bath-

A RURAL GOTHIC FARM-HOUSE. - Design 2.

In this plan for a rural home, with the exception of the cornice on the gables and a few cheap brackets, there is no ornamentation to cause an unnecessary outlay of money, and nothing likely to get out of repair, as is often the case with the flimsy ornaments attached to so many modern cottages.

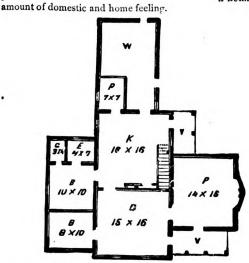
This house is in the Rural Gothic style, a style which, with its broken outline, its verandas and bay windows, expresses no small



A RURAL GOTHIC FARM-HOUSE.

monotonous a ppearance of that
side of the building, and balancing
in a degree the
mass of the other
side.

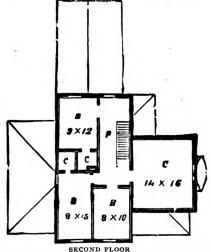
The main roof rises at an angle of 45°; the woodhouse part is onestory; roof, onefourth pitch. The inside is finished appropriately, plain and neat. The lower story is nine feet high in the clear; the upper story, finished to collar-beams, is eight feet six inches. The cellar under kitchen and dining-room is well lighted, and



FIRST FLOOR.

P, Parlor; D, Dining-Room; K, Kitchen; B, B, Bed-Rooms; C, Closet; E, Bath; P, Pantry; V, V, Verandas; W, Wood-house.

The house was planned for a family who aim to do their own work; therefore utility, compactness and economy of labor were first considered. Yet the external appearance is quite picturesque and truthful. The part containing the two bed-rooms, bathing and clothes-room is quite economically obtained, it being a lean-to addition, one story high, with a flattish roof. Above this is a gabled window, with its stool resting on this roof. This gable rises to the height of the main roof, thus breaking the otherwise

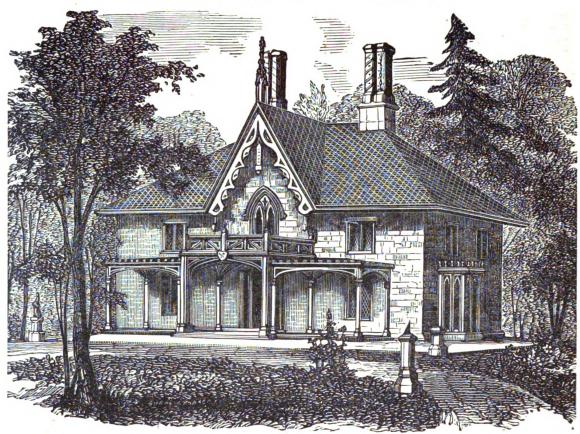


B, B, B, Bed-Rooms; C, Chamber, c, c, Closets; P, Passage.

the chimney, standing in the centre, is furnished with openings for ventilation. With this arrangement the cellar can be kept sweet and wholesome. The rooms are warmed by stoves. Fire-places may be easily built in the dining-room and kitchen, if desired. The bathing-room is easily accessible, it being connected with the kitchen bed-room, which renders it a convenient and useful apartment.

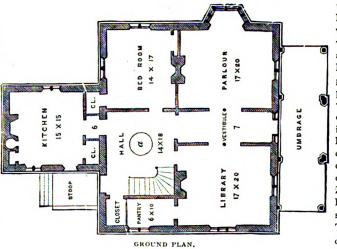
The cost of this house, with a light timber frame, clapboarded, lined on the inside with inch lumber, then furred with strip lath, lathed and plastered with two coats finish, is about \$1,100.

A RURAL GOTHIC COTTAGE.—Design 3.



RURAL GOTHIC COTTAGE.

This is an admirable design for internal convenience. The plan of the first floor shows the kitchen and one bed-room on the same floor with the living-rooms. The kitchen is a wing added to the rear, and is one story in height. The situation on which this dwelling is placed has a prospect in one direction only, and the front, shown in the elevation, commands this view, the rear being nearly hidden by trees. On this front are situated two pleasant apartments, each 17 by 20 feet, opening from



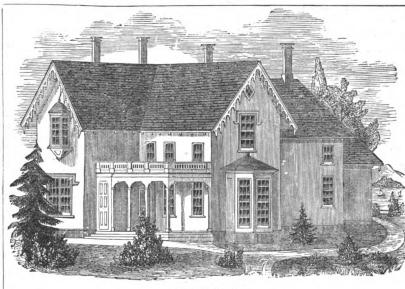
the vestibule or entrance hall by large double doors, which, when fully opened, will throw these two rooms and the vestibule into one large apartment. Some elegance is conferred on the parlor by the bay-window, which is balanced by a double window opposite, in the dining-room. The living-room, or library, commands a pantry of convenient size, in the rear of which is a closet opening into the hall. This hall is of ample size to serve as a dining-room. There is a glazed back door opening to the rear

of the house, and a door opening into the kitchen passage, b, on the right. The hall also receives light from the window over this door, in the second story. This passage is formed by running a solid partition across the kitchen building, so as to admit of two doors, in order to prevent smells—one an ordinary door opening into the hall, and the other a fly or spring door opening

into the kitchen. This partition also gives room for two closets, one for the kitchen and another for the bed-room. The elevation of this cottage will admit of great irregularity and picturesqueness of outline, and is productive of beautiful effects. A very pleasing mode of covering the roof is shown in the elevation. This cottage should be built of brick.

RURAL COTTAGE.—Design 4.

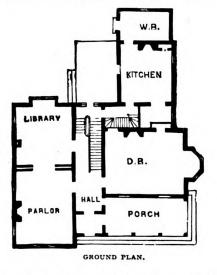
The accompanying plan of a rural cottage was awarded a premium which was offered some few years ago. The outside appearance is attractive, light and pleasant, and is not overornamental, a great fault with many modern houses. The rooms are large and most conveniently arranged, every room of the ground floor being pleasant enough for a parlor or a living-room.

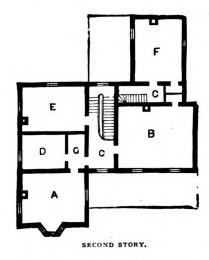


RURAL COTTAGE.

by 11 feet; F, servants' bed-room, 12 feet 6 inches by 14 feet

GROUND PLAN. D. R., dining-room, 18 feet 9 inches by 15 feet; Parlor, 18 feet 9 6 inches; G, passage, 3 feet 6 inches in width.

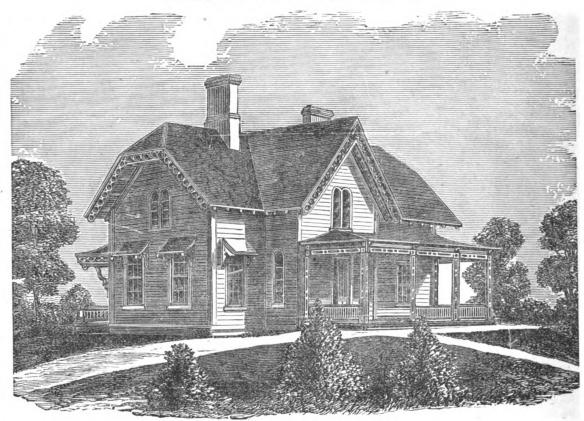




inches by 14 feet 6 in. ; Library, 15 feet by 14 feet 6 inches; Kitchen, 12 feet 6 inches by 13 feet 6 inches; Wash-Room, 12 feet by 8 feet; Hall, 6 feet 5 inches in width.

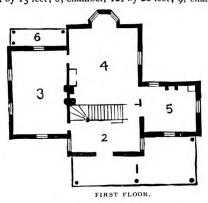
SECOND STORY. A, bed-room, 14 feet 5 inches by II feet 9 inches; B, chamber, 18 feet 9 inches by 15 feet; C, C, halls; D, bedroom, 9 feet 6 inches by 11 feet; E, bed - room, 14 feet 6 inches

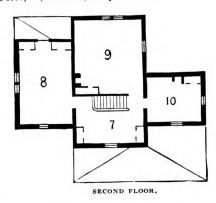
A SOUTHERN COTTAGE.—Design 5.



A SOUTHERN COTTAGE.

This design is intended to be built of frame, and the roof to be shingled. It should stand at such a distance from the road as to afford sufficient space for ornamental shrubbery, walks, etc. The cost of the building should fall within the limits of \$2,000. Upon the principal floor the porch gives access to the hall, which opens into the parlor and dining-room; the kitchen is well placed, and ample in size. The second floor contains a hall and three liberal-sized chambers. First floor: 1, porch; 2, hall, 10½ by 15 feet; 3, parlor, 12½ by 20 feet; 4, dining-room, 15 by 18 feet; 5, kitchen, 12 by 12 feet; 6, back porch. Second floor—7, hall, 10½ by 15 feet; 8, chamber, 12½ by 20 feet; 9, chamber, 15 by 18 feet; 10, chamber, 12 by 12 feet.

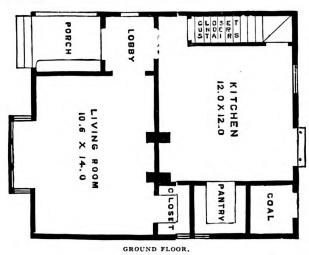




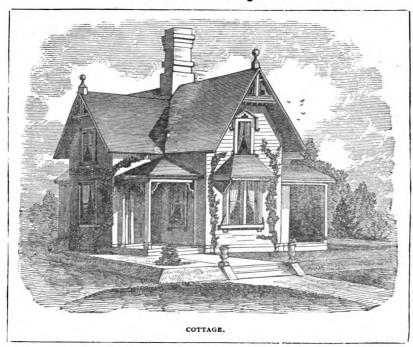
AN ORNAMENTAL COTTAGE.—Design 6.



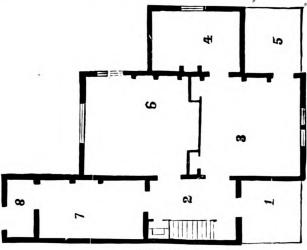
This is a good design for a lodge or a seaside or summer cottage, and looks extremely well among the trees of a camp-ground. The porch is large and roomy; the living room is of good size, well lighted by a square bay window. The kitchen is well supplied with closets. The second floor contains three bed-rooms, very conveniently arranged, and each provided with a closet. The two down-stairs rooms and the large front bed-room are supplied with open fire-places. The estimated cost is from \$1,200 to \$1,600, according to locality and style of finish.



COTTAGE.—Design 7.

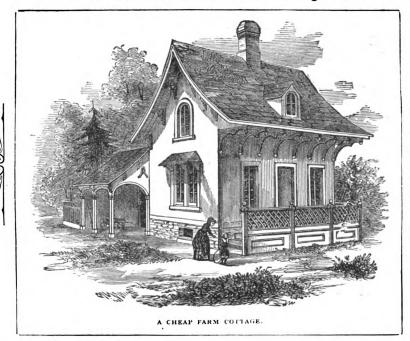


The elevation and ground plan here given of this cottage fully explain it. The upper story consists of four bed-rooms and a bath-room. Cost, \$1,800. Ground plan: 1, porch; 2, lobby; 3, drawing-room; 4, library or boudoir; 5, outside porch; 6, dining-room; 7, kitchen; 8, scullery. Note—No. 5 might be used as a conservatory.

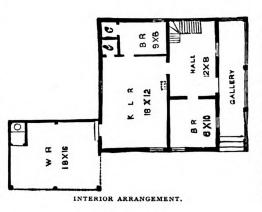


GROUND FLOOR.

A CHEAP FARM COTTAGE. — Design 8.

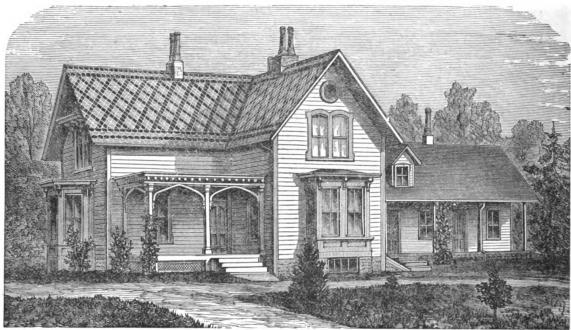


This plan is appropriate for a hilly or mountainous region. It is in the French style of roof, and allied to the Italian in its brackets and gables and half-terraced front. The body of the cottage is 22 by 20 feet, with 12-foot posts, the roof has a pitch of 50° from a horizontal line, in its straight dimensions, curving horizontally towards the eaves, which, together with the gables, project 3 feet over the walls. The terrace in front is 5



feet wide. On the rear is a woodhouse 18 by 16 feet in area, open at the house end and in front, with a roof in the same style as the main house, and posts 8 feet high, standing on the ground, 2 feet below the surface of the cellar-wall, which supports the main building. The plan of the interior arrangement any builder can follow. The construction of this cottage may be of stone, brick or wood, either producing a fine effect.

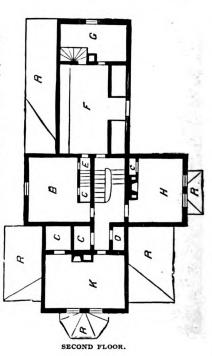
A SUBURBAN COTTAGE.—Design 9.



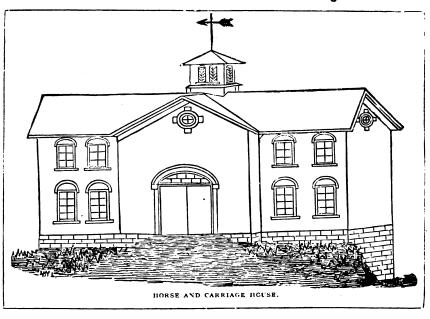
A SUBURBAN COTTAGE.



A, front veranda, 10 by 16 feet; B, hall, 7 by 20 feet; C, parlor, 12 by 18 feet, with bay window, 4 by 9 feet; D, dining-room, 15 by 20 feet; E, library, 12 by 15 feet, with square bay window, 4 by 8 feet; F, kitchen, 11 by 12 feet; G, pantry, 8 by 8 feet; H, store-room, 10 by 12 feet; I, coal-room, 71 by 8 feet; K, wash-room, 71 by 8 feet; L, veranda, 8 by 16 feet; M, veranda, 4 by 30 feet; N, cistern, 9 feet in diameter; O, well; c, c, closets; s, s, shelves; b, bath; f, back stairs; t, sink; p, pump. Second floor-Hall, 7 feet wide; C, C, C, C, closets; D, linen closet; E, attic stairs; F, servants' bed-room, 11 by 20 feet; G, garret; B, bed-room, 15 by 15 feet; H, bed-room, 12 by 15 feet; K, bed-room, 12 by 18 feet. Cost of this building, \$2,500.



HORSE AND CARRIAGE HOUSE.—Design 10.



This is to be built of brick, with stone basement eight feet deep. It is therefore designed for a side hill, unless the basement is dispensed with, which would be poor economy.

S is the stable part, with double stalls for six horses. C is | feet; height of basements, 8 feet; first story, 10 feet; second

carriage-room for three or four light wagons or carriages. D is a circular drive eight feet wide. F is an octagonal fountain eight feet in diameter. H, H, are harness-rooms. C L, C L, closets. L is ladder to loft.

The hay is cut and fed from the second story. A circular pine cistern, surrounded by also be a stop-cock near the cistern to shut off the water in cold weather.

The dimensions are: Main part, 24 by 26 feet; wings, 16 by 24 feet; height of basements, 8 feet; first story, 10 feet; second

story, 8 feet to plates. A

cupola with double windows and flat roof, with staff in the centre, will be an elegant feature. Eaves should project two and a half feet. Roof not more than quarter pitch. Cost, about \$1,000.

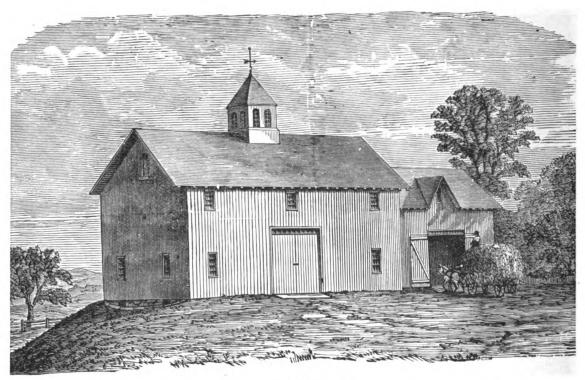
This is designed more especially for city residents, and those farmers in villages and near large towns who can af-

S P D G L

sawdust, occupies one corner of the second story, and supplies the fountain through a small iron pipe. The orifice of this should be drawn down to a minute hole in order to save the water and yet keep it changing continually. There should

ford ample accommodations for man and beast. Many would object to the drive and fountain, and yet the small space on a single floor that they occupy does not make them a costly luxury, while the air of elegance that they convey could ill be dispensed with by one who has a generous regard for taste.

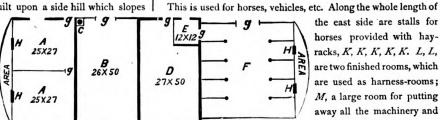
A SUBSTANTIAL FARM BARN.—Design 11.



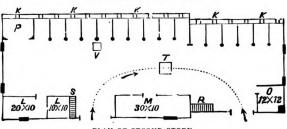
This plan is a convenient as well as a substantial one. As seen

in the elevation, the barn is built upon a side hill which slopes

to the east. There are three distinct floors. The main building is 50 by 80 feet, and one wing 40 by 40 feet. The basement floor is divided into several departments, each well furnished for the purpose for which it is designed. B is the manure pit, C, a small cistern; D, a root cellar; E, a pen for calves; F, under the wing at the south end of the main building, is fitted up with a number of roomy stalls for cows. Each of the departments has a door, g, g, g, g, opening to the stock yard.



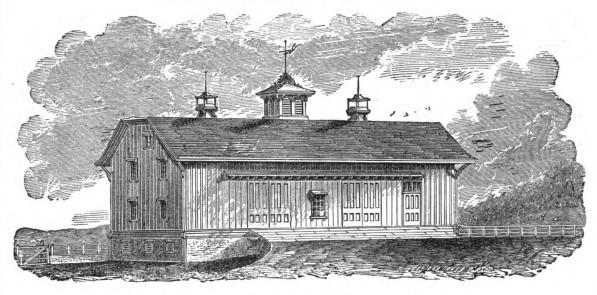
PLAN OF BASEMENT FLOOR.



PLAN OF SECOND FLOOR.

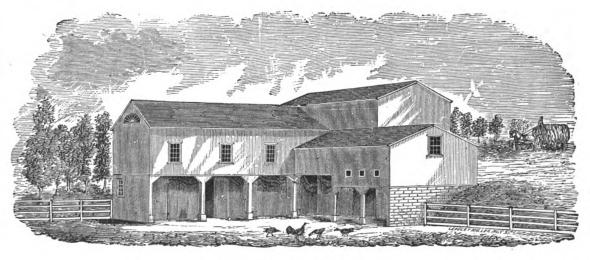
the east side are stalls for horses provided with hayracks, K, K, K, K, K. L, L, are two finished rooms, which are used as harness-rooms; M, a large room for putting away all the machinery and tools used about the farm; O, P, loose horse-boxes; R, a stairway leading to the basement or ground floor; S, a stairway leading up to third story; T, V, trap doors. The structure is well supplied with windows, and is light and comfortable for both man and beast.

GRAIN AND STOCK BARN.—Design 12.



GRAIN AND STOCK BARN.

This plan is a combined grain and stock barn. The grain bins are next north of the stables and form part of the partition between the stables and main floor. They are four feet in width and have a capacity for 500 bushels. The bottom of the bins slopes towards the main floor, and is ten inches above it. The bins have a free circulation of air on every side. The excavation for the structure, including that in the yard, is, at the southwest corner, about three feet in depth, and graded to a slope of one foot in forty feet, the natural slope being one in ten. A trench is dug three feet wide and one foot below the grade, and filled with broken stone, that serves as a drain, upon which the foundation rests. The foundation walls are built of stone. The first floor is divided into stables. A stairway leads to floor above, and there is also a place for harness. The forage for horses is put into tubes above. The floor is double and is made tight. The manure is dropped through a trap-door to shed. The cost of the entire structure is about \$1,200.



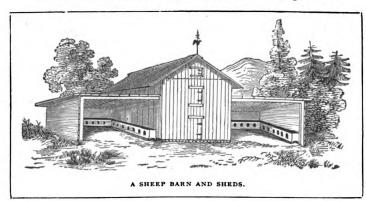
DESIGN 13-A CONVENIENT BARN.

A CONVENIENT BARN.—Design 13.

This is the plan of a very convenient barn. The stone wall is laid in mortar and painted. The frames are all made of square timber and joists. The basement is dry, sills two feet from the ground. Grain bins so arranged that you can get to any one of them, capable of storing over 3,000 bushels, and four root bins, which will store 800 bushels, where they can be seen at any time. The basement story is 8 feet; barn posts 18 feet long. The long shed is 25 feet wide and 64 feet long; posts, 20 feet. East shed posts 9 feet long. Enter the barn from the north, with team on upper floor.

A SHEEP BARN AND SHEDS.—Design 14.

The necessity of furnishing shelter for sheep in a northern climate is, we suppose, universally acknowledged, but how much is necessary for the comfort and health of the animals, and how this is best obtained, is an open question. The accompanying engraving of a sheep barn is taken from



Randall's Sheep Husbandry. With those open ends closed, it seems to be a very convenient arrangement. The barn proper is used mainly for storing hay, and the wings should be made of sufficient size to afford the necessary room.



→*NOTEWORTHY SUGGESTIONS.*<



Having introduced to the reader the specific plans, etc., which will guide him in the erection of a home, a few general words of advice and suggestion will be in order.

It will be well to remember that no architect allows himself, when planning a house, to be guided by any cast-iron set of rules.

A house is a good deal like a suit of clothes, of which a fair fit may be obtained at the ready-made store, while, if close-fitting and stylish garments are wanted, the man's measure is taken and the articles made to order. In the country care should be taken not to make the house too high. Ground is cheap, and a home in the country which spreads over a goodly extent of ground has a certain air of elbowroom and capacity about it that the most magnificent four-story city dwelling fails to possess.

When building projections, window sills, etc., take care to provide a "deep molding" underneath, so that rain-water will drip off. Otherwise it will gather up the dust upon them and run down the walls, leaving mouldy streaks behind.

Where there is no plumbing in the house, the best place for the bath-room is next to the kitchen. Have the range placed against the bath-room partition and place a large tin boiler on the back of the range. From the back of the boiler carry a faucet through the partition to open over a bath-tub. By this means the carrying of water to and fro is dispensed with. To discharge the water from the bath, run a small pipe to a distance of twenty feet from the house and let it end there in a large hole filled in with loose stones and covered with earth. The water when discharged into this hole will soak away into the ground and do no harm, as it is not polluted.

To avoid rats or fire spreading through a house it is advisable to put one course of bricks in mortar at each floor level in all the furrings and partitions.

For the finest effect of foliage use trees and shrubbery as a background and flanking for the principal building. Too many large trees in the foreground cut off the view; besides, they keep out the sunshine, prevent free atmospheric circulation, and injure the house by concentrating upon it dampness and shade.

When a low site for a dwelling cannot be avoided be careful to have a thorough system of under-draining. See that the cellar-wall is raised considerably above the ground and that enough soil is spread around the house to make a yard which will shed the water readily. In a case of this kind every sanitary advantage offered by sun, soil, shelter and prospect should be carefully improved.

A square house includes more space within a given length of wall than any rectangular shape.

Of the whole house the front, and of the front the main entrance, should show the most pains in the direction of ornamentation.

Care in the disposition of rooms will save thousands of steps to those who do the house-work. Kitchen and dining-room should always be adjoining apartments. The dining-room is the place for the china closet. A wood-shed connecting with the kitchen by a covered way is a great convenience in inclement weather.

A multiplicity of closets is an invaluable boon to the housewife.

Frame houses exclude the cold much better if the studding is covered with tongued and grooved sheathing, and this in turn by tarred paper, the weather-boarding being placed over the whole. The sheathing and weather-boarding should be fitted closely around door and window frames, and the tarred paper allowed to lap over a little where a crack is likely to occur.

Where ingrain carpets, usually a yard wide, are to be used, the economical cutting will be helped by having either the length or breadth of each room some multiple of the width, as fifteen feet, eighteen feet,

etc.

The difference between slate-roofing and shingles is about two cents per square foot, and where the former is used the difference in outlay purchases practically everlasting durability, a fire-proof roof, and purer rain-water in the cistern.

If free from sap, shingles will last from twenty to thirty years.

An attic, running the full length of the house, with windows at both ends, will prove a fine drying-room in bad weather.



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X**X**X**X**X**X**X**X**X**X





WILLIAM CULLEN BRYANT.

O him who, in the love of nature, holds
Communion with her visible forms, she speaks
A various language; for his gayer hours
She has a voice of gladness, and a smile
And eloquence of beauty, and she glides
Into his darker musings, with a mild
And gentle sympathy, that steals away
Their sharpness, ere he is aware.

When thoughts

Of the last bitter hour come like a blight Over thy spirit, and sad images Of the stern agony, and shroud, and pall, And breathless darkness, and the narrow house, Make thee to shudder and grow sick at heart; Go forth into the open sky, and list To nature's teaching, while from all around Comes a still voice:

"Yet a few days, and thee
The all-beholding sun shall see no more,
In all his course; nor yet, in the cold ground,
Where thy pale form was laid with many tears,
Nor in the embrace of ocean, shall exist
Thy image. Earth, that nourishes thee, shall claim
Thy growth, to be resolved to earth again;
And, lost each human trace, surrendering up
Thine individual being, shalt thou go
To mix forever with the elements,
To be a brother to th' insensible rock
And to the sluggish clod, which the rude swain
Turns with his share and treads upon.

The oak

Shall send its roots abroad, and pierce thy mold. Yet not to thy eternal resting-place Shalt thou retire alone, nor couldst thou wish Couch more magnificent. Thou shalt lie down With patriarchs of the infant world, with kings, The powerful of the earth, the wise, the good, Fair forms, and hoary seers of ages past, All in one mighty sepulchre.

The hills,

Rock-ribbed and ancient as the sun; the vales, Stretching in pensive quietness between; The venerable woods; rivers that move In majesty, and the complaining brooks
That make the meadows green; and, poured round all,
Old ocean's gray and melancholy waste,
Are but the solemn decorations all
Of the great tomb of man. The golden sun,
The planets, all the infinite host of heaven,
Are shining on the sad abodes of death,
Through the still lapse of ages.

All that thread

The globe are but a handful to the tribes
That slumber in its bosom. Take the wings
Of morning, and the Barcan desert pierce,
Or lose thyself in the continuous woods
Where rolls the Oregon, and hears no sound
Save its own dashings—yet—the dead are there;
And millions in those solitudes, since first
The flight of years began, have laid them down
In their last sleep: the dead reign there alone.

So shalt thou rest; and what if thou shalt fall Unnoticed by the living, and no friend Take note of thy departure? All that breathe Will share thy destiny. The gay will laugh When thou art gone; the solemn brood of care Plod on; and each one, as before, will chase His favorite phantom; yet all these shall leave Their mirth and their enjoyments, and shall come And make their bed with thee. As the long train Of ages glide away, the sons of men, The youth in life's green spring, and he who goes In the full strength of years, matron and maid, The bowed with age, the infant in the smiles And beauty of its innocent age cut off-Shall, one by one, be gathered to thy side, By those who in their turn shall follow them.

So live, that when thy summons comes to join The innumerable caravan that moves To the pale realms of shade, where each shall take His chamber in the silent halls of death, Thou go not like the quarry-slave at night, Scourged to his dungeon, but, sustained and soothed, By an unfaltering trust, approach thy grave Like one who wraps the drapery of his couch About him, and lies down to pleasant dreams.





HENRY WADSWORTH LONGFELLOW.

So unto the bow the cord is,
So unto the man is woman;
Though she bends him, she obeys him;
Though she draws him, yet she follows;
Useless each without the other."

Thus the youthful Hiawatha Said within himself and pondered, Much perplexed by various feelings, Listless, longing, hoping, fearing, Dreaming still of Minnehaha, Of the lovely Laughing Water, In the land of the Dacotahs.

"Wed a maiden of your people,"
Warning said the old Nokomis;
"Go not eastward, go not westward,
For a stranger, whom ye know not!
Like a fire upon the hearthstone
Is a neighbor's homely daughter;
Like the starlight or the moonlight
Is the handsomest of strangers!"

Thus dissuading spake Nokomis, And my Hiawatha answered Only this: "Dear old Nokomis, Very pleasant is the firelight, But I like the starlight better, Better do I like the moonlight!"

Gravely then said old Nokomis:
"Bring not here an idle maiden,
Bring not here a useless woman,
Hands unskilful, feet unwilling;
Bring a wife with nimble fingers,
Heart and hand that move together,
Feet that run on willing errands!"

Smiling answered Hiawatha:
"In the land of the Dacotahs
Lives the Arrow-maker's daughter,
Minnehaha, Laughing Water,
Handsomest of all the women.
I will bring her to your wigwam,
She shall run upon your errands,
Be your starlight, moonlight, firelight,
Be the sunlight of my people!"

Still dissuading said Nokomis:
"Bring not to my lodge a stranger
From the land of the Dacotahs!
Very fierce are the Dacotahs,
Often is there war between us,
There are feuds yet unforgotten,
Wounds that ache and still may open!"

Laughing answered Hiawatha:
"For that reason, if no other,
Would I wed the fair Dacotah,
That our tribes might be united,
That old feuds might be forgotten,
And old wounds be healed forever!"

Thus departed Hiawatha
To the land of the Dacotahs,
To the land of handsome women;
Striding over moor and meadow
Through interminable forests,
Through uninterrupted silence.

With his moccasins of magic,
At each stride a mile he measured;
Yet the way seemed long before him,
And his heart outran his footsteps;
And he journeyed without resting,
Till he heard the cataract's laughter,
Heard the Falls of Minnehaha
Calling to him through the silence.
"Pleasant is the sound!" he murmured,
"Pleasant is the voice that calls me!"

On the outskirts of the forest,
"Twixt the shadow and the sunshine,
Herds of fallow deer were feeding,
But they saw not Hiawatha;
To his bow he whispered, "Fail not!"
To his arrow whispered, "Swerve not!"
Sent it singing on its errand,
To the red heart of the roebuck;
Threw the deer across his shoulder,
And sped forward without pausing.

At the doorway of his wigwam
Sat the ancient Arrow-maker,
In the land of the Dacotahs,
Making arrow-heads of jasper,
Arrow-heads of chalcedony.
At his side, in all her beauty,
Sat the lovely Minnchaha,
Sat his daughter, Laughing Water,
Plaiting mats of flags and rushes;
Of the past the old man's thoughts were,
And the maiden's of the future.

He was thinking, as he sat there, Of the days when with such arrows He had struck the deer and bison, On the Muskoday, the meadow; Shot the wild goose, flying southward, On the wing, the clamorous Wawa; Thinking of the great war-parties, How they came to buy his arrows, Could not fight without his arrows, Ah, no more such noble warriors Could be found on earth as they were! Now the nien were all like women, Only used their tongues for weapons!

She was thinking of a hunter From another tribe and country, Young and tall and very handsome, Who one morning, in the spring-time, Came to buy her father's arrows, Sat and rested in the wigwam, Lingered long about the doorway, Looking back as he departed.
She had heard her father praise him,
Praise his courage and his wisdom;
Would he come again for arrows
To the Falls of Minnehaha?
On the mat her hands lay idle,
And her eyes were very dreamy.

Through their thoughts they heard a footstep, Heard a rustling in the branches. And with glowing check and forehead, With the deer upon his shoulders, Suddenly from out the woodlands Hiawatha stood before them.

Straight the ancient arrow-maker Looked up gravely from his labor, Laid aside the unfinished arrow, Bade him enter at the doorway, Saying, as he rose to meet him, "Hiawatha, you are welcome!"

At the feet of Laughing Water Hiawatha laid his burden, Threw the red deer from his shoulders; And the maiden looked up at him, Looked up from her mat of rushes. Said with gentle look and accent, "You are welcome, Hiawatha!"

Very spacious was the wigwam,
Made of deer-skin dressed and whitened,
With the gods of the Dacotahs
Drawn and painted on its curtains,
And so tall the doorway, hardly
Hiawatha stooped to enter,
Hardly touched his eagle-feathers
As he entered at the doorway.

Then uprose the Laughing Water, From the ground fair Minnehaha, Laid aside her mat unfinished, Brought forth food and set before them, Water brought them from the brooklet, Gave them food in earthen vessels, Gave them drink in bowls of basswood, Listened while her father answered, But not once her lips she opened, Not a single word she uttered.

Yes, as in a dream she listened To the words of Hiawatha, As he talked of old Nokomis, Who had nursed him in his childhood, As he told of his companions, Chibiabos, the musician, And the very strong man, Kwasind, And of happiness and plenty In the land of the Ojibways, In the pleasant land and peaceful.

"After many years of warfare,
Many years of strife and bloodshed,
There is peace between the Ojibways
And the tribe of the Dacotahs;"
Thus continued Hiawatha,
And then added, speaking slowly,
"That this peace may last forever,
And our hands be clasped more closely,
And our hearts be more united,
Give me as my wife this maiden,
Minnehaha, Laughing Water,
Loveliest of Dacotah women!"

And the ancient Arrow-maker Paused a moment ere he answered, Smoked a little while in silence, Looked at Hiawatha proudly, Fondly looked at Laughing Water, And made answer very gravely: "Yes, if Minnehaha wishes: Let your heart speak, Minnehaha!"

And the lovely Laughing Water Seemed more lovely, as she stood there, Neither willing nor reluctant, As she went to Hiawatha, Softly took the seat beside him, While she said, and blushed to say it, "I will follow you, my husband!"

This was Hiawatha's wooing!
Thus it was he won the daughter
Of the ancient Arrow-maker,
In the land of the Dacotahs!
From the wigwam he departed,
Leading with him Laughing Water;
Hand in hand they went together,
Through the woodland and the meadow,
Left the old man standing lonely
At the doorway of his wigwam,
Heard the Falls of Minnehaha
Calling to them from the distance,

Crying to them from afar off,
"Fare thee well, O Minnehaha!"

And the ancient Arrow-maker Turned again unto his labor,
Sat down by his sunny doorway,
Murmuring to himself, and saying:
"Thus it is our daughters leave us,
Those we love, and those who love us!
Just when they have learned to help us,
When we are old and lean upon them,
Comes a youth with flaunting feathers,
With his flute of reeds, a stranger,
Wanders piping through the village,
Beckons to the fairest maiden,
And she follows where he leads her,
Leaving all things for the stranger!"

Pleasant was the journey homeward
Through interminable forests,
Over meadow, over mountain,
Over river, hill and hollow.
Short it seemed to Hiawatha,
Though they journeyed very slowly,
Though his pace he checked and slackened
To the steps of Laughing Water.

Over wide and rushing rivers
In his arms he bore the maiden;
Light he thought her as a feather,
As the plume upon his head-gear;
Cleared the tangled pathway for her,
Bent aside the swaying branches,
Made at night a lodge of branches,
And a bed with boughs of hemlock,
And a fire before the doorway
With the dry cones of the pine-tree.

All the travelling winds went with them O'er the meadow, through the forest; All the stars of night looked at them, Watched with sleepless eyes their slumber; From his ambush in the oak-tree Peered the squirrel, Adjidaumo, Watched with eager eyes the lovers; And the rabbit, the Wabasso, Scampered from the path before them, Peeping, peeping from his burrow, Sat erect upon his haunches, Watched with curious eyes the lovers.

Pleasant was the journey homeward!
All the birds sang loud and sweetly
Songs of happiness and heart's-ease;
Sang the blue-bird, the Owaissa,
"Happy are you, Hiawatha,
Having such a wife to love you!"
Sang the robin, the Opechee,
"Happy are you, Laughing Water,
Having such a noble husband!"

From the sky the sun benignant Looked upon them through the branches, Saying to them, "O my children, Love is sunshine, hate is shadow, Life is checkered shade and sunshine, Rule by love, O Hiawatha!"

From the sky the moon looked at them, Filled the lodge with mystic splendors, Whispered to them, "O my children, Day is restless, night is quiet, Man imperious, woman feeble; Half is mine, although I follow; Rule by patience, Laughing Water!"

Thus it was they journeyed homeward,
Thus it was that Hiawatha
To the lodge of old Nokomis
Brought the moonlight, starlight, firelight,
Brought the sunshine of his people,
Minnehaha, Laughing Water,
Handsomest of all the women
In the land of the Dacotahs,
In the land of handsome women,



JOHN GREENLEAF WHITTIER.

LESSINGS on thee, little man, Barefoot boy, with cheeks of tan! With thy turned-up pantaloons, And thy merry whistled tunes; With thy red lip, redder still, Kissed by strawberries on the hill; With the sunshine on thy face, Through thy torn brim's jaunty grace, From my heart I give thee joy-I was once a barefoot boy! Prince thou art - the grown-up man Only is republican. Let the million-dollared ride! Barefoot, trudging at his side, Thou hast more than he can buy In the reach of ear and eye-Outward sunshine, inward joy, Blessings on thee, barefoot boy !

Oh, for boyhood's painless play, Sleep that wakes in laughing day, Health that mocks the doctor's rules, Knowledge never learned of schools, Of the wild bee's morning chase, Of the wild flower's time and place, Flight of fowl, and habitude Of the tenants of the wood: How the tortoise bears his shell, How the woodchuck digs his cell, And the ground mole sinks his well; How the robin feeds her young, How the oriole's nest is hung; Where the whitest lilies blow, Where the freshest berries grow Where the ground-nut trails its vine, Where the wood-grape's clusters shine; Of the black wasp's cunning way,

Mason of his walls of clay, And the architectural plans Of gray hornet artisans! — For, eschewing books and tasks, Nature answers all he asks; Hand in hand with her he walks, Face to face with her he talks, Part and parcel of her joy— Blessings on the barefoot boy!

Oh, for boyhood's time of June, Crowding years in one brief moon, When all things I heard or saw, Me, their master, waited for. I was rich in flowers and trees, Humming-birds and honey-bees; For my sport the squirrel played, Plied the snouted mole his spade:

For my taste the blackberry cone Purpled over hedge and stone; Laughed the brook for my delight Through the day and through the night, Whispering at the garden wall, Talked with me from fall to fall; Mine the sand-rimmed pickerel pond, Mine the walnut slopes beyond, Mine on bending orchard trees, Apples of Hesperides! Still, as my horizon grew. Larger grew my riches, too; All the world I saw or knew Seemed a complex Chinese toy, Fashioned for a barefoot boy!

Oh, for festal dainties spread, Like my bowl of milk and bread,

Pewter spoon and bowl of wood. On the door-stone, gray and rude! O'er me, like a regal tent, Cloudy-ribbed the sunset bent, Purple-curtained, fringed with gold, Looped in many a wind-swung fold, While for music came the play Of the pied frogs' orchestra; And, to light the noisy choir, Lit the fly his light of fire. I was monarch; - pomp and joy Waited on the barefoot boy!

Cheerily, then, my little man, Live and laugh, as boyhood can! Though the flinty slopes be hard, Stubble-speared the new-mown sward,

Every morn shall lead thee through Fresh baptisms of the dew: Every evening from thy feet Shall the cool wind kiss the heat : All too soon these feet must hide In the prison cells of pride, Lose the freedom of the sod, Like a colt's for work be shod, Made to tread the mills of toil Up and down in ceaseless moil: Happy if their track be found Never on forbidden ground; Happy if they sink not in Quick and treacherous sands of sin. Ahl that thou couldst know thy joy, Ere it passes, barefoot boy!



EDGAR ALLAN POB.

I.

Silver bells—

Silver bells—

What a world of merriment their melody foretells!

How they tinkle, tinkle, tinkle,
In the icy air of night!

While the stars that oversprinkle
All the heavens seem to twinkle
With a crystalline delight—
Keeping time, time,
In a sort of Runic rhyme,
To the tintinnabulation that so musically wells
From the bells, bells, bells,
Bells, bells, bells,
From the jingling and the tinkling of the bells,

II. I.

Hear the mellow wedding bells—
Golden bells!
What a world of happiness their harmony foretells!
Through the balmy air of night
How they ring out their delight!
From the molten-golden notes,
And all in tune,
What a liquid ditty floats
To the turtle-dove that listens, while she gloats
On the moon! On the moon!

Oh, from out the sounding cells,

What a gush of euphony voluminously wells!

How it swells!

How it dwells

On the Future! how it tells

Of the rapture that impels

To the swinging and the ringing

Of the bells, bells, bells,

Of the bells, bells, bells,

Bells, bells, bells,

To the rhyming and the chiming of the bells. On the moon!

III. Hear the loud alarum bells Brazen bells! What a tale of terror, now, their turbulency tells!
In the startled ear of night
How they scream out their affright!
Too much horrified to speak,
They can only shrick, shrick,
Out of tune,
In the clamorous appealing to the mercy of the
fire.

fre, mad expostulation with the deaf and frantic fire, Taning higher, higher, higher,

fire,
Leaping higher, higher, higher,
With a desperate desire,
And a resolute endeavor,
Now—now to sit or never,
By the side of the pale-faced moon,
Oh, the bells, bells, bells,
What a tale their terror tells
Of despair!

In the silence of the night,
How we shiver with affright
At the melancholy menace of their tone!
For every sound that floats
From the rust within their throats
Is a groan.
And the people—ah, the people—
They that dwell up in the steeple,
All alone,
And who tolling, tolling, tolling,
In that muffled monotone,
Feel a glory in so rolling In a mad expostulation with the deaf and trantic fire,
Leaping higher, higher, higher,
With a desperate desire,
And a resolute endeavor,
Now—now to sit or never,
By the side of the pale-faced moon.
Oh, the bells, bells,
What a tale their terror tells
Of despair!
How they clang, and clash, and roar!
What a horror they outpour
On the bosom of the palpitating air!
Yet the ear it fully knows
By the twanging,
And the clanging,
How the danger ebbs and flows;
Yet the ear distinctly tells,
In the jangling,
And the wrangling,
How the danger sinks and swells,
By the sinking or the swelling in the anger of the bells—
Of the bells—
Of the bells—
In the clamor and the clangor of the bells!

IV.
Hear the tolling of the bells—
Iron bells |
What a world of solemn thought their monody compels!

What a world of solemn thought their monody compels!

And the transpling,
And the wrangling,
And the wrangling in the paran of the bells.

And his merry bosom swells
Whith pean of the bells !
And his merry bosom swells
With the pean of the bells !
And his merry bosom swells
With the pean of the bells !

Keeping time, time, time,
In a sort of Runic rhyme,
To the throbbing of the bells—
To the sobbing of the bells—
To the sobbing of the bells—
To the tolling of the bells—
Of the bells, bells



inter OWind

SHAKSPERE.

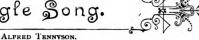
From "As You Like It." - Act II, Sc. 7.

Thy tooth is not so keen Because thou art not seen, Although thy breath be rude. Heigh-ho! sing heigh-ho! unto the green holly, Most friendship is feigning, most loving mere folly. Then heigh-ho the holly, This life is most jolly.

Freeze, freeze, thou bitter sky, Thou dost not bite so nigh As benefits forgot; Though thou the waters warp. Thy sting is not so sharp As friend remembered not. Heigh-ho! sing heigh-ho! unto the green holly Most friendship is feigning, most loving mere folly: Then heigh-ho the holly, This life is most jolly.



Bugle Song.



HE splendor falls on castle walls And snowy summits old in story; The long light shakes across the lakes, And the wild cataract leaps in glory. Blow, bugle, blow, set the wild echoes flying; Blow, bugle; answer, echoes, dying, dying, dying!



Oh, hark! oh, hear! how thin and clear, And thinner, clearer, farther going, Oh, sweet and far from cliff and scar, The horns of Elfland faintly blowing! Blow, let us hear the purple glens replying, Blow, bugle; answer, echoes, dying dying, dying!

O love, they die in yon rich sky, They faint on hill or field or river; Our echoes roll from soul to soul, And grow forever and forever. Blow, bugle, blow, set the wild echoes flying, And answer echoes, answer, dying, dying, dying!



BARRY CORNWALL

HE sea! the sea! the open sea, The blue, the fresh, the ever free! Without a mark, without a bound, It runneth the earth's wide regions round, It plays wth the clouds; it mocks the skies; Or like a cradled creature lies.

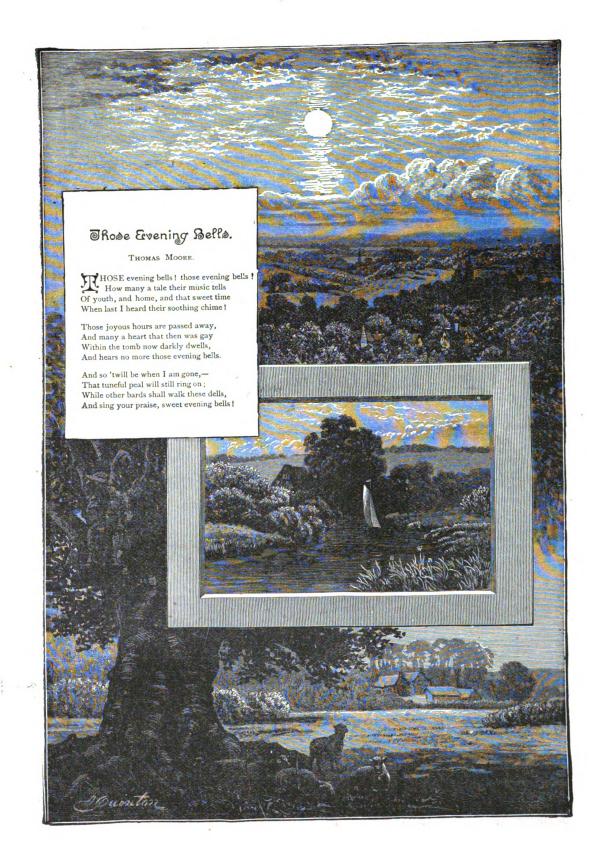
I'm on the sea! I'm on the sea! I am where I would ever be; With the blue above, and the blue below, And silence wheresoe'er I go; If a storm should come and awake the deep, What matter? I shall ride and sleep.

I love (oh. how I love!) to ride On the fierce, foaming, bursting tide, When every mad wave drowns the moon, Or whistles aloft his tempest tune, And tells how goeth the world below, And why the southwest blasts do blow.

I never was on the dull, tame shore But I loved the great sea more and more, And backward flew to her billowy breast, Like a bird that seeketh its mother's nest; And a mother she was, and is to me; For I was born on the open sea.

The waves were white and red the morn, In the noisy hour when I was born: And the whale it whistled and the porpoise roll' 4, And the dolphins bared their backs of gold; And never was heard such an outcry wild As welcomed to life the ocean child.

I've lived since then, in calm and strife, Full fifty summers a sailor's life, With wealth to spend, and a power to range, But never have sought nor sigh'd for change: And Death, whenever he come to me, Shall come on the wild, unbounded sea.





An Extract from "The Deserted Village."

WEET was the sound, when oft, at evening's close, Up yonder hill the village murmur rose; There, as I passed with careless steps and slow, The mingling notes came softened from below; The swain responsive as the milk-maid sung, The sober herd that lowed to meet their young; The noisy geese that gabbled o'er the pool, The playful children just let loose from school; The watch-dog's voice that bayed the whispering wind, And the loud laugh that spoke the vacant mind,-These all in sweet confusion sought the shade, And filled each pause the nightingale had made.

Near yonder copse, where once the garden smiled, And still where many a garden flower grows wild, There, where a few torn shrubs the place disclose, The village preacher's modest mansion rose. A man he was to all the country dear. And passing rich, with forty pounds a year; Remote from towns he ran his godly race, Nor e'er had changed, or wished to change his place. Unskilful he to fawn, or seek for power, By doctrines fashioned to the varying hour; Far other aims his heart had learned to prize, More bent to raise the wretched than to rise. His house was known to all the vagrant train, He chid their wanderings, but relieved their pain; The long-remembered beggar was his guest, Whose beard, descending, swept his aged breast; The ruined spendthrift, now no longer proud, Claimed kindred there, and had his claims allowed; The broken soldier, kindly bade to stay, Sat by his fire, and talked the night away Wept o'er his wounds, or, tales of sorrow done,

Shouldered his crutch, and showed how fields were won. Pleased with his guests, the good man learned to glow, And quite forgot their vices in their woe; Careless their merits or their faults to scan. His pity gave ere charity began.

Thus to relieve the wretched was his pride, And e'en his failings leaned to virtue's side, But in his duty prompt at every call, He watched and wept, he prayed and felt for all: And as a bird each fond endearment tries, To tempt its new-fledged offspring to the skies, He tried each art, seproved each dull delay, Allured to brighter worlds, and led the way.

Beside the bed where parting life was laid, And sorrow, guilt and pain by turns dismayed, The reverend champion stood. At his control Despair and anguish fled the struggling soul: Comfort came down, the trembling wretch to raise, And his last faltering accents whispered praise.

At church, with meek and unaffected grace, His looks adorned the venerable place: Truth from his lips prevailed with double sway, And fools, who came to scoff, remained to pray. The service past, around the pious man, With steady zeal, each honest rustic ran; E'en children followed, with endearing wile, And plucked his gown, to share the good man's smile. His ready smile a parent's warmth expressed,

Their welfare pleased him, and their cares distressed; To them his heart, his love, his griefs were given, But all his serious thoughts had rest in heaven: As some tall cliff, that lifts its awful form, Swells from the vale, and midway leaves the storm; Though round its breast the rolling clouds are spread, Eternal sunshine settles on its head.



H! a dainty plant is the ivy green,
That creepeth o'er ruins old!
Of right choice food are his meals, I ween,
In his cell so lone and cold.
The wall must be crumbled, the stones decayed,
To pleasure his dainty whim:
And the mouldering dust that years have made
Is a merry meal for him.
Creeping where no life is seen,
A rare old plant is the ivy green.

Fast he stealeth on, though he wears no wings, And a staunch old heart has he; How closely he twineth, how tight he clings, To his friend, the huge oak tree!



And slyly he traileth along the ground,
And his leaves he gently waves
As he joyously hugs and crawleth round
The rich mould of dead men's graves.
Creeping where grim death has been,
A rare old plant is the ivy green.

Whole ages have fled, and their works decayed,
And nations have scattered been;
But the stout old ivy shall never fade
From its hale and hearty green.
The brave old plant in its lonely days
Shall fatten upon the past:
For the stateliest building man can raise
Is the ivy's food at last.





Battle of the Angels.



JOHN MILTON.
From "Paradise Lost," Book VI.

ICHAEL bid sound the archangel trumpet;
Through the vast of heaven It sounded, and the faithful armies rung Hosanna to the Highest: nor stood at gaze The adverse legions, nor less hideous joined The horrid shock. Now storming fury rose, And clamor, such as heard in heaven till now Was never; arms on armor clashing brayed Horrible discord, and the madding wheels Of brazen chariots raged; dire was the noise Of conflict: overhead the dismal hiss Of fiery darts in flaming volleys flew, And flying vaulted either host with fire. So under fiery cope together rushed Both battles main, with ruinous assault And inextinguishable rage. All heaven Resounded; and had earth been then, all earth Had to her centre shook.

Deeds of eternal fame

Were done, but infinite: for wide was spread That war, and various: sometimes on firm ground A standing fight, then, soaring on main wing, Tormented all the air; all air seemed then Conflicting fire.

Forthwith (behold the excellence, the power Which God hath in his mighty angels placed) Their arms away they threw, and to the hills



(For earth hath this variety from heaven
Of pleasure situate in hill and dale),
Light as the lightning glimpse they ran, they flew
From their foundations loosening to and fro,
They plucked the seated hills, with all their load,
Rocks, waters, woods, and by their shaggy tops
Uplifting bore them in their hands; amaze,
Be sure, and terror, seized the rebel host,
When coming towards them so dread they saw
The bottom of the mountains upward turned,

* * * and on their heads
Main promontories flung, which in the air '
Came shadowing, and oppressed whole legions
armed;

Their armor helped their harm, crushed in and

Into their substance pent, which wrought them pain Implacable, and many a dolorous groan; Long struggling underneath, ere they could wind Out of such prison, though spirits of purest light, Purest at first, now gross by sinning grown. The rest, in imitation, to like arms Betook them, and the neighboring hills uptore: So hills amid the air encountered hills, Hurled to and fro with jaculation dire, That underground they fought in dismal shade, Infernal noise! war seemed a civil game To this uproar; horrid confusion heaped Upon confusion rose.



ARE thee well, and if forever, Still forever, fare thee well; E'en though unforgiving, never 'Gainst thee shall my heart rebel.

Would that breast were bared before thee Where thy head so oft hath lain, While that placid sleep came o'er thee Which thou ne'er canst know again;

Would that breast, by thee glanced over, Every inmost thought could show! Then thou wouldst at last discover 'Twas not well to spurn it so.

Though the world for this commend thee— Though it smile upon the blow, E'en its praises must offend thee, Founded on another's woe.

Though my many faults defaced me, Could no other arm be found Than the one which once embraced me To inflict a cureless wound! Yet, oh, yet thyself deceive not:
Love may sink by slow decay;
But by sudden wrench, believe not
Hearts can thus be torn away:

Still thine own its life retaineth—
Still must mine, though bleeding, beat,
And th' undying thought which paineth
Is—that we no more may meet.

These are words of deeper sorrow Than the wail above the dead; Both shall live, but every morrow Wakes as from a widowed bed.

And when thou wouldst solace gather When our child's first accents flow, Wilt thou teach her to say "Father!" Though his care she must forego?

When her little hands shall press thee,
When her lip to thine is pressed,
Think of him whose love shall bless thee,
Think of him thy love had blessed.

Should her lineaments resemble
Those thou never more mayst see,
Then thy heart will softly tremble
With a pulse yet true to me.

All my faults perchance thou knowest, All my madness none can know; All my hopes where'er thou goest, Whither, yet with thee they go.

Every feeling hath been shaken;
Pride, which not a world could bow,
Bows to thee—by thee forsaken,
E'en my soul forsakes me now

But 'tis done; all words are i.ile— Words from me are vainer still; But the thoughts we cannot bridle Force their way without the will.

Fare thee well! thus disunited,
Torn from every nearer tie,
Seared in heart, and lone, and blighted,
More than this I scarce can die.



MRS. FELICIA HEMANS.

EAVES have their time to fall,
And flowers to wither at the north wind's breath,
And stars to set—but all,
Thou hast all seasons for thine own, O Death!

Day is for mortal care,

Eve for glad meetings round the joyous hearth, Night for the dreams of sleep, the voice of prayer— But all for thee, thou mightiest of the earth.

The banquet hath its hour,

Its feverish hour of mirth, and song, and wine; There comes a day for grief's o'erwhelming power, A time for softer tears—but all are thine.

Youth and the opening rose

May look like things too glorious for decay,

And smile at thee—but thou art not of those

That wait the ripened bloom to seize their prey.

Leaves have their time to fall.

And flowers to wither at the north wind's breath, And stars to set—but all.

Thou hast all seasons for thine own, O Death!







We know when moons shall wane,

When summer-birds from far shall cross the sea, When autumn's hue shall tinge the golden grain— But who shall teach us when to look for thee?

Is it when Spring's first gale

Comes forth to whisper where the violets lie? Is it when roses in our paths grow pale?—
They have one season—all are ours to die.

Thou art where billows foam,

Thou art where music melts upon the air; Thou art around us in our peaceful home, And the world calls us forth—and thou art there.

Thou art where friend meets friend,

Beneath the shadow of the elm to rest—
Thou art where foe meets foe, and trumpets rend
The skies, and swords beat down the princely crest.

Leaves have their time to fall,

And flowers to wither at the north wind's breath, And stars to set—but all.

Thou hast all seasons for thine own, O Death!



ELIZABETH BARRETT BROWNING.

O you know you have asked for the costliest thing
Ever made by the Hand above—
A woman's heart and a woman's life,
And a woman's wonderful love?

Do you know you have asked for this priceless thing As a child might ask for a toy? Demanding what others have died to win,

With the reckless dash of a boy?

You have written my lesson of duty out,
Man-like you have questioned me—

Now stand at the bar of my woman's soul,

Until I shall question thee.
You require your mutton shall always be hot,
Your socks and your shirts shall be whole;
I require your heart to be true as God's stars,

And pure as heaven your soul.

You require a cook for your mutton and beef;
I require a far better thing:

A seamstress you're wanting for stockings and shirts— I look for a man and a king







A king for a beautiful realm called home, And a man that the maker, God, Shall look upon as He did the first, And say, "It is very good."

I am fair and young, but the rose will fade From my soft, young cheek one day— Will you love me then, 'mid the falling leaves As you did 'mid the bloom of May?

Is your heart an ocean so strong and deep I may launch my all on its tide? A loving woman finds heaven or hell On the day she is made a bride.

I require all things that are grand and true, All things that a man should be; If you give this all, I would stake my life

To be all you demand of me.

If you cannot do this—a laundress and cook
You can hire, with little to pay;

But a woman's heart and a woman's life Are not to be won that way.



SARA JANE LIPPINCOTT (Grace Greenwood)

HEN troubled in spirit, when weary of life,
When I faint 'neath its burdens, and shrink from its strife, When its fruit, turned to ashes, are mocking my taste, And its fairest scene seems but a desolate waste, Then come ye not near me, my sad heart to cheer With friendship's soft accents or sympathy's tear; No pity I ask, and no counsel I need, But bring me, oh, bring me, my gallant young steed! With his high arched neck, and his nostril spread wide, His eye full of fire, and his step full of pride! As I spring to his back, as I seize the strong rein, The strength to my spirit returneth again; The bonds are all broken that fettered my mind, And my cares borne away on the wings of the wind; My pride lifts its head, for a season bowed down, And the queen in my nature now puts on her crown! Now we're off-like the winds to the plains whence they came, And the rapture of motion is thrilling my frame! On, on speeds my courser, scarce printing the sod, Scarce crushing a daisy to mark where he trod! On, on like a deer, when the hound's early bay Awakes the wild echoes, away and away! Still faster, still farther, he leaps at my cheer, Till the rush of the startled air whirs in my ear!

Now 'long a clear rivulet lieth his track, See his glancing hoofs tossing the white pebbles back; Now a glen dark as midnight-what matter?-we'll down, Though shadows are round us, and rocks o'er us frown; The thick branches shake as we're hurrying through, And deck us with spangles of silvery dew. What a wild thought of triumph that this girlish hand Such a steed in the might of his strength may command ! What a glorious creature! Ah! glance at him now, As 1 cneck him awhile on this green hillock's brow; How he tosses his mane, with a shrill, joyous neigh, And paws the firm earth in his proud, stately play! Hurrah! off again, dashing on as in ire, Till a long, flinty pathway is flashing with fire! Ho! a ditch! Shall we pause? No; the bold leap we dare, Like a swift-winged arrow we rush through the air! Oh, not all the pleasures that poets may praise, Not the 'wildering waltz in the ball-room's blaze, Nor the chivalrous joust, nor the daring race, Nor the swift regatta, nor merry chase, Nor the sail, high heaving waters o'er, Nor the rural dance on the moonlight shore, Can the wild and thrilling joy exceed Of a fearless leap on a fiery steed!



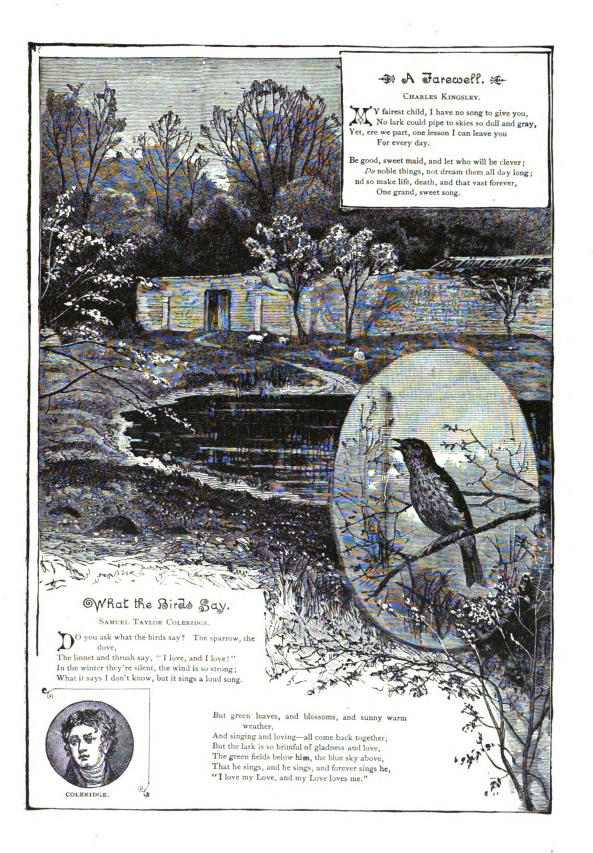
NGEL faces watch my pillow, angel voices haunt my sleep, And upon the winds of midnight shining pinions round me sweep, Floating downward on the starlight two bright infant forms I see—They are mine, my own bright darlings, come from heaven to visit me.

Earthly children smile upon me, but these little ones above Were the first te stir the fountains of a mother's deathless love, And as now they watch my slumber, while their soft eyes on me shine, God forgive a mortal yearning still to call His angels mine.

Earthly children fondly call me, but no mortal voice can seem Sweet as those that whisper "Mother!" 'mid the glories of my dream; Years will pass, and earthly prattlers cease perchance to lisp my name, But my angel babies' accents will be evermore the same. And the bright band now around me from their home perchance will rove, In their strength no more depending on my constant care and love; But my first-born still shall wander from the sky, in dreams to rest Their soft cheeks and shining tresses on an earthly mother's breast.

Time may steal away the freshness, or some whelming grief destroy All the hope that erst had blossomed, in my summer-time of joy; Earthly children may forsake me, earthly friends perhaps betray, Every tie that now unites me to this life may pass away:

But, unchanged, those angel watchers, from their blessed, immortal home, Pure and fair, to cheer the sadness of my darkened dreams shall come, And I cannot feel forsaken, for, though reft of earthly love, Angel children call me "Mother!" and my soul will look above.





MARY A. TOWNSEND.

The moss lay thick beneath my feet, the pine sighed overhead.

The trace of a dismantled fort lay in the forest nave,

And in the shadow near my path I saw a soldier's grave.

The bramble wrestled with the weed upon the lowly mound, The simple headboard, rudely writ, had rotted to the ground; I raised it with a reverent hand, from dust its words to clear, But time had blotted all but these—"A Georgia Volunteer."

I saw the toad and scaly snake from tangled covert start,
And hide themselves among the weeds above the dead man's heart;
But undisturbed, in sleep profound, unheeding there he lay;
His coffin but the mountain soil, his shroud Confederate gray.

I heard the Shenandoah roll along the vale below,
I saw the Alleghenies rise towards the realms of snow.
The "Valley Campaign" rose to mind—its leader's name—and then
I knew the sleeper had been one of Stonewall Jackson's men.

Yet whence he came, what lip shall say—whose tongue will ever tell—What desolate hearths and hearts have been because he fell? What sad-eyed maiden braids her hair, her hair which he held dear? One lock of which, perchance, lies with the Georgia Volunteer!

What mother, with long watching eyes and white lips cold and dumb, Waits with appalling patience for her darling boy to come? Her boy! whose mountain grave swells up but one of many a scar Cut on the face of our fair land by gory-handed war.

What fights he fought, what wounds he wore, are all unknown to fame; Remember, on his lonely grave there is not c'en a name! That he fought well and bravely, too, and held his country dear, We know, else he had never been a Georgia Volunteer.

He sleeps — what need to question now if he were wrong or right? He knows, ere this, whose cause was just in God the Father's sight. He wields no warlike weapons now, returns no foeman's thrust— Who but a coward would revile an honored soldier's dust?

Roll, Shenandoah, proudly roll, adown thy rocky glen; Above thee lies the grave of one of Stonewall Jackson's men, Beneath the cedar and the pine, in solitude austere, Unknown, unnamed, forgotten, lies a Georgia Volunteer.



ETHEL LYNN BEERS.

" LL quiet along the Potomac," they say,
" Except now and then a stray picket
Is shot, as he walks on his beat, to and fro,
By a rifleman off in the thicket.
"Tis nothing—a private or two, now and then,
Will not count in the news of the battle;
Not an officer lost—only one of the men,
Moaning out, all alone, the death-rattle."

All quiet along the Potomac to-night,
Where the soldiers lie peacefully dreaming;
Their tents in the rays of the clear autumn moon
Or the light of the watchfires are gleaming.
A tremulous sigh, as the gentle night-wind
Through the forest-leaves softly is creeping,
While stars up above, with their glittering eyes,
Keep guard—for the army is sleeping.

There's only the sound of the lone sentry's tread,
As he tramps from the rock to the fountain,
And thinks of the two in the low trundle-bed
Far away in the cot on the mountain.
His musket falls slack—his face, dark and grim,
Grows gentle with memories tender,

As he mutters a prayer for the children asleep— For their mother—may Heaven defend her!

The moon seems to shine just as brightly as then,
That night, when the love yet unspoken
Leaped up to his lips—when low-murmured vows
Were pledged to be ever unbroken.
Then, drawing his sleeve roughly over his eyes,
He dashes off tears that are welling,
And gathers his gun closer up to its place
As if to keep down the heart-swelling.

He passes the fountain, the blasted pine-tree— The footstep is lagging and weary; Yet onward he goes, through the broad belt of light Toward the shades of the forest so dreary. Hark! was it night-wind that rustled the leaves? Was it moonlight so wondrously flashing? It looked like a rifle—"Ah! Mary, good-by!" And the life-blood is ebbing and plashing.

All quiet along the Potomac to-night,
No sound save the rush of the river:
While soft falls the dew on the face of the dead—
The picket's off duty forever.



THOMAS CAMPBELL.

OUR bugles sang truce—for the night-cloud had lowered; And the sentinel stars set their watch in the sky; And thousands had sunk on the ground overpowered, The weary to sleep, the wounded to die.

When reposing that night on my pallet of straw,
By the wolf-scaring faggot that guarded the slain,
At the dead of the night a sweet vision I saw,
And thrice ere the morning I dream it again.

Methought from the battle-field's dreadful array,
Far, far I had roamed on a desolate track:
'Twas autumn—and sunshine arose on the way,
To the home of my fathers, that welcomed me back.

- I flew to the pleasant field traversed so oft
 In life's morning march when my bosom was young;
- I heard my own mountain goats bleating aloft, And knew the sweet strain the corn-reapers sung.

Then pledged we the wine-cup, and fondly I swore From my home and my weeping friends never to part; My little ones kissed me a thousand times o'er, And my wife sobbed aloud in her fulness of heart.

"Stay, stay with us—rest, thou art weary and worn;"
And fain was their war-broken soldier to stay;
But sorrow returned with the dawning of morn,
And the voice in my dreaming melted away.



OME, dear old comrade, you and I
Will steal an hour from days gone by—
The shining days when life was new,
And all was bright as morning dew,
The lusty days of long ago,
When you were Bill and I was Joe.

Your name may flaunt a titled trail, Proud as a cockerel's rainbow tail; And mine as brief appendix wear As Tam O'Shanter's luckless mare; To-day, old friend, remember still That I am Joe and you are Bill.

You've won the great world's envied prize, And grand you look in people's eyes, With HON. and LL.D., In big brave letters, fair to see— Your fist, old fellow! off they go!— How are you, Bill? How are you, Joe? You've worn the judge's ermine robe; You've taught your name to half the globe; You've sung mankind a deathless strain; You've made the dead past live again; The world may call you what it will, But you and I are Joe and Bill.

The chaffing young folks stare and say,
"See those old buffers, bent and gray;
They talk like fellows in their teens!
Mad, poor old boys! That's what it means"—
And shake their heads; they little know
The throbbing hearts of Bill and Joe—

How Bill forgets his hour of pride,
While Joe sits smiling at his side;
How Joe, in spite of time's disguise,
Finds the old schoolmate in his eyes—
Those calm, stern eyes that melt and fill
As Joe looks fondly up at Bill.

Ah, pensive scholar! what is fame?
A fitful tongue of leaping flame;
A giddy whirlwind's fickle gust,
That lifts a pinch of mortal dust:
A few swift years, and who can show
Which dust was Bill, and which was Joe?

The weary idol takes his stand,
Holds out his bruised and aching hand,
While gaping thousands come and go—
How vain it seems, this empty show!—
Till all at once his pulses thrill:
"Tis poor old Joe's" God bless you, Bill!"

And shall we breathe in happier spheres The names that pleased our mortal ears— In some sweet lull of harp and song, For earth-born spirits none too long— Just whispering of the world below, Where this was Bill, and that was Joe?



E may live without poetry, music and art;
We may live without conscience and live without heart;
We may live without friends; we may live without books;
But civilized man cannot live without cooks.

We may live without books,—what is knowledge but grieving? We may live without hope,—what is hope but deceiving? We may live without love,—what is passion but pining? But where is the man that can live without dining?



Dictures of Memory.



ALICE CARY.

MONG the beautiful pictures
That hang on Memory's wall,
Is one of a dim old forest,
That seemeth best of all.
Not for its gnarled oaks olden,
Dark with the mistletoe;
Not for the violets golden
That sprinkle the vale below;
Not for the milk-white illies
That lean from the fragrant hedge,
Coquetting all day with the sunbeams,
And stealing their golden edge;
Not for the vines on the upland
Where the bright red berries rest,
Nor the pinks, nor the pale, sweet cowslip
It seemeth to me the best.

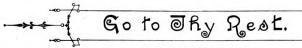
I once had a little brother
With eyes that were dark and deep—
In the lap of that dim old forest,
He lieth in peace asleep.



Light as the down of the thistle,
Free as the winds that blow,
We roved there, the beautiful summers
The summers of long ago;
But his feet on the hills grew weary,
And one of the autumn eves,
I made for my little brother
A bed of the yellow leaves.

Sweetly his pale arms folded
My neck in a meek embrace
As the light of immortal beauty
Silently covered his face;
And when the arrows of sunset
Lodged in the tree-tops bright,
He fell, in his saint-like beauty,
Asleep by the gates of light.

Therefore, of all the pictures
That hang on Memory's wall,
The one of the dim old forest
Seemeth the best of all.



LYDIA HUNTLEY SIGOURNEY.

O to thy rest, fair child!
Go to thy dreamless bed,
While yet so gentle, undefiled,
With blessings on thy head.

Fresh roses in thy hand, Buds on thy pillow laid, Haste from this dark and fearful land, Where flowers so quickly fade.

Shall love with weak embrace Thy upward wing detain?



No! cherub angel, seek thy place Amid the cherub train.

Ere sin hath seared the breast, Or sorrow waked the tear, Rise to thy throne of changeless rest, In yon celestial sphere!

Because thy smile was fair,
Thy lip and eye so bright,
Because thy loving cradle-care
Was such a dear delight.



God Our Refuge.



CLARA LAUER BALDWIN

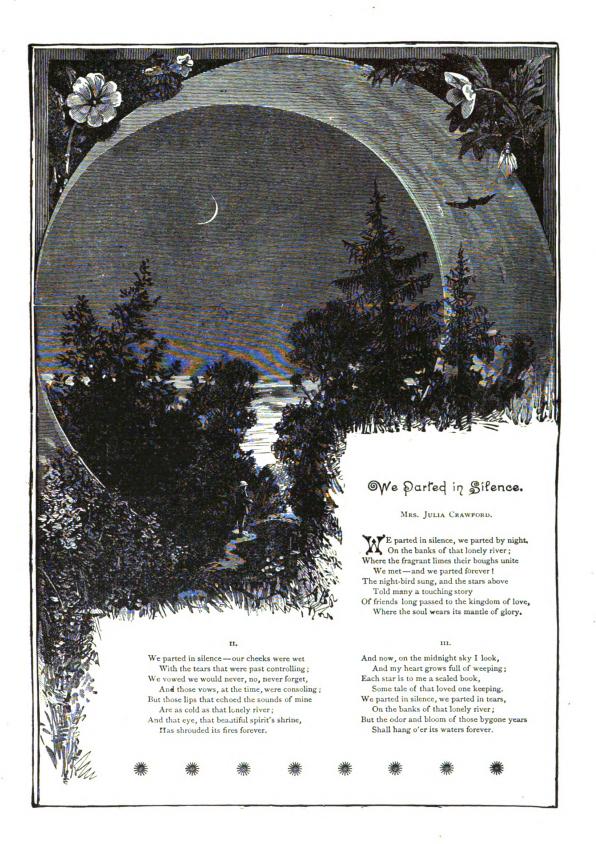
HEN the last hope of life
Has been crushed in the dust,
And the last of our loved ones are gone—
When we feel that there's none
Left, who love us and trust,
And we stand in the wide world alone—

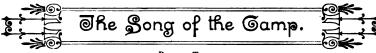
When the friends of the past
Have become all estranged
And forget "'tis divine to forgive"—



When cold words are said,
And cold looks exchanged—
And there's naught left to hope for or live,—

Then ' tis joy to the soul
To know that there's One
Whose mercy and love reaches all—
Who in tenderest love
Clings till life's journey's done,
And pities us still when we fall.





BAYARD TAYLOR.

IVE us a song!" the soldiers cried,
The outer trenches guarding. The outer trenches guarding, When the heated guns of the camps allied Grew weary of bombarding.

The dark Redan, in silent scoff, Lay grim and threatening under; And the tawny mound of the Malakoff No longer belched its thunder.

There was a pause. A guardsman said. "We storm the forts to-morrow; Sing while we may, another day Will bring enough of sorrow."

They lay along the battery's side, Below the smoking cannon: Brave hearts from Severn and from Clyde, And from the banks of Shannon.

F I had known in the morning

The words unkind

Would trouble my mind

📥 How wearily all the day

I said when you went away,

But we vex "our own"

With look and tone

I had been more careful, darling,

Nor given you needless pain:

We might never take back again.

They sang of love, and not of fame; Forgot was Britain's glory: Euch heart recalled a different name, But all sang "Annie Laurie."

Voice after voice caught up the song, Until its tender passion Rose like an anthem, rich and strong, Their battle-eye confession.

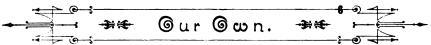
Dear girl, her name he dared not speak, But as the song grew louder, Something upon the soldier's cheek Washed off the stains of powder.

Beyond the darkening ocean burned The bloody sunset's embers, While the Crimean valleys learned How English love remembers.

And once again a fire of hell Rained on the Russian quarters, With scream of shot, and burst of shell. And bellowing of the mortars!

And Irish Nora's eves are dim For a singer dumb and gory; And English Mary mourns for him Who sang of "Annie Laurie."

Sleep, soldiers! still in honored rest Your truth and valor wearing: The bravest are the tenderest,-The loving are the daring.



MARGARET E. SANGSTER.

For though in the quiet evening You may give me the kiss of peace, Yet it might be That never for me The pain of the heart should cease. How many go forth in the morning That never come home at night! And hearts have broken For harsh words spoken,

We have careful thoughts for the stranger, And smiles for the sometime guest, But oft for "our own" The bitter tone, Though we love "our own" the best. Ah, lips with the curve impatient!

Ah, brow with that look of scorn! Twere a cruel fate, Were the night too late

To undo the work of morn.



There do No Death. J. L. McCreery.

That sorrow can ne'er set right.



HERE is no death! The stars go down To rise upon some fairer shore: And bright in Heaven's jewelled crown They shine forevermore.

There is no death! The dust we tread Shall change beneath the summer showers To golden grain or mellow fruit, Or rainbow-tinted flowers.

There is no death! The forest leaves Convert to life the viewless air: The rocks disorganize to feed The hungry moss they bear.



There is no death! The leaves may fall, And flowers may fade and pass away; They only wait through wintry hours The coming of the May.

There is no death! An angel form Walks o'er the earth with silent tread, He bears our best loved things away; And then we call them "dead."

He leaves our hearts all desolate. He plucks our fairest, sweetest flowers; Transplanted into bliss, they now Adorn immortal bowers.

The bird-like voice, whose joyous tones Made glad these scenes of sin and strife, Sings now an everlasting song Around the tree of life.

Where'er he sees a smile too bright, Or heart too pure for taint and vice, He bears it to that world of light, To dwell in Paradise.

Born unto that undying life, They leave us but to come again; With joy we welcome them the same-Except their sin and pain.

And ever near us, though unseen, The dear immortal spirits tread: For all the boundless universe Is life-there are no dead.





WILL M. CARLETON.

"GOOD mornin', sir, Mr. Printer; how is your body to-day?
I'm glad you're to home, for you fellers is al'ays a runnin' away.
Your paper last week wa'n't so spicy nor sharp as the one week before;
But I s'pose when the campaign is opened, you'll be whoopin' it up to 'em more.

That feller that's printin' The Smasher is goin' for you perty smart;

And our folks said this mornin' at breakfast, they thought he was gettin' the start.

But I hushed 'em right up in a minute, and said a good word for you; I told 'em I b'lieved you was tryin' to do just as well as you knew; And I told 'em that some one was sayin', and whoever 'twas it is so, That you can't expect much of no one man, nor blame him for what he don't

But, layin' aside pleasure for business, I've brought you my little boy Jim; And I thought I would see if you couldn't make an editor outen o' him.

"My family stock is increasin', while other folks seem to run short. I've got a right smart of a family—it's one of the old-fashioned sort: There's Ichabod, Isaac and Israel, a workin' away on the farm, They do 'bout as much as one good boy, and make things go off like a charm.

There's Moses and Aaron are sly ones, and slip like a couple of eels;
But they're tol'able steady in one thing—they al'ays git round to their
meals.

There's Peter, is busy inventin' (though what he invents I can't see), And Joseph is studyin' medicine—and both of 'em boardin' with me. There's Abram and Albert is married, each workin' my farm for himself, And Sam smashed his nose at a shootin', and so he is laid on the shelf. The rest of the boys are all growin' 'cept this little runt, which is Jim, And I thought that perhaps I'd be makin' an editor outen o' him.

"He ain't no great shakes for to labor, though I've labored with him a good deal,

And give him some strappin' good arguments I know he couldn't help but to feel:

But he's built out of second-growth timber, and nothin' about him is big, Exceptin' his appetite only, and there he's as good as a pig.

I keep him carryin' luncheons, and fillin' and bringin' the jugs,
And take him among the pertatoes, and set him to pickin' the bugs;
And then there's things to be doin' a helpin' the women in-doors;
There's churnin' and washin' of dishes, and other descriptions of chores;

But he don't take to nothin' but victuals, and he'll never be much, I'm afraid,

So I thought it would be a good notion to larn him the editor's .rade. His body's too small for a farmer, his judgment is rather too slim, But I thought we perhaps could be makin' an editor outen o' him.

"It ain't much to get up a paper, it wouldn't take him long for to learn; He could feed the machine, I'm thinkin', with a good strappin' fellow to

And things that was once hard in doin' is easy enough now to do;

Just keep your eye on your machinery, and crack your arrangements right through.

I used for to wonder at readin', and where it was got up, and how;
But 'tis most of it made by machinery—I can see it all plain enough now.
And poetry, too, is constructed by machines of different designs,
Each one with a gauge and a chopper, to see to the length of the lines;
And I hear a New York clairvoyant is runnin' one sleeker than grease,
And a-rentin' her heaven-born productions at a couple of dollars apiece;
An' since the whole trade has growed easy, 'twould be easy enough, I've a
whim.

If you was agreed, to be makin' an editor outen o' Jim."

The editor sat in his sanctum and looked the old man in the eye,
Then glanced at the grunning young hopeful, and mournfully made his reply:
"Is your son a small unbound edition of Moses and Solomon both?
Can he compass his spirit with meekness, and strangle a natural oath?
Can he leave all his wrongs to the future, and carry his heart in his cheek?
Can he do an hour's work in a minute, and live on a sixpence a week?
Can he courteously talk to an equal, and browbeat an impudent dunce?
Can he keep things in apple-pie order, and do half-a-dozen at once?

"Can he press all the springs of knowledge with quick and reliable touch,
And be sure that he knows how much to know, and knows how to not know
too much?

Does he know how to spur up his virtue, and put a check-rein on his pride? Can he carry a gentleman's manners within a rhinoceros' hide? Can he know all, and do all, and be all, with cheerfulness, courage and vim? If so, we perhaps can be 'makin' an editor outen o' him.'"

The farmer stood curiously listening, while wonder his visage o'erspread, And he said: "Jim, I guess we'll be goin'; he's probably out of his head."



WILL M. CARLETON

HICH this railway smash reminds me, in an underhanded way, Of a lightning-rod dispenser that came down on me one day; Oiled to order in his motions—sanctimonious in his mien—Hands as white as any baby's an' a face unnat'ral clean; Not a wrinkle had his raiment, teeth and linen glittered white, And his new-constructed neck-tie was an interestin' sight! Which I almost wish a razor had made red that white-skinned throat, And that new-constructed neck-tie had composed a hangman's knot, Ere he brought his sleck-trimmed carcass for my women folks to see, And his buzz-saw tongue a-runnin' for to gouge a gash in me. Still I couldn't help but like him—as I fear I al'ays must, The gold o' my own doctrine in a fellow heap o' dust; For I saw that my opinions, when I fired them round by round, Brought back an answerin' volley of a mighty similar sound.

I touched him on religion, and the joys my heart had known; And I found that he had very similar notions of his own! I told him of the doubtings that made sad my boyhood years; Why, he'd laid awake till morning with that same old breed of fears!

I pointed up the pathway that I hoped to heaven to go: He was on that very ladder, only just a round below! Our politics was different, and at first he galled and winced; But I arg'ed him so able, he was very soon convinced. And 'twas gettin' tow'rd the middle of a hungry summer day—There was dinner on the table, and I asked him, would he stay? And he sat him down among us—everlastin' trim and neat—And he asked a short crisp blessin' almost good enough to eat! Then he fired up on the mercies of our Everlastin' Friend,

FAMILIAR POEMS.

Till he gi'n the Lord Almighty a good, first-class recommend: And for full an hour we listened to that sugar-coated scamp— Talkin' like a blessèd angel—eatin' like a blasted tramp!

My wife—she liked the stranger, smiling on him warm and sweet; (It al'ays flatters women when their guests are on the eat!) And he hinted that some ladies never lose their youthful charms, And caressed her yearlin' baby, and received it in his arms. My sons and daughters liked him—for he had progressive views, And he chew_d the cud o' fancy, and gi'n down the latest news: And I couldn't help but like him—as I fear I al'ays must, The gold of my own doctrines in a fellow-heap o' dust.

He was chiselin' desolation through a piece of apple-pie, When he paused and gazed upon us, with a tear in his off eye, And said, "Oh, happy family!—your joys they make me sad! They all the time remind me of the dear ones once / had! A babe as sweet as this one; a wife almost as fair; A little girl with ringlets, like that one over there. But had I not neglected the means within my way, Then they might still be living, and loving me to-day.

"One night there came a tempest; the thunder peals were dire;
The clouds that marched above us were shooting bolts of fire;
In my own house I lying, was thinking, to my shame,
How little I had guarded against those bolts of flame,
When crash!—through roof and ceiling the deadly lightning cleft,
And killed my wife and children, and only I was left!

"Since then afar I've wandered, and naught for life have cared, I Save to save others' loved ones whose lives have yet been spared; Since then it is my mission, where'er by sorrow tossed, To sell to worthy people good lightning-rods at cost. With sure and strong protection I'll clothe your buildings o'er;

'Twill cost you—twenty dollars (perhaps a trifle more; Whatever else it comes to, at lowest price I'll put; You simply sign a contract to pay so much per foot)."

I — signed it! while my family, all approvin', stood about;
The villain dropped a tear on't—but he didn't blot it out!
That self-same day, with wagons, came some rascals great and small;
They hopped up on my buildin's just as if they owned 'em all;
They hewed 'em and they hacked 'em—agin' my loud desires—
They trimmed 'em off with gewgaws, and they bound 'em down with wires;
They hacked 'em and they hewed 'em and they hewed and hacked 'em still,
And every precious minute kep' a runnin' up the bill.

To find my soft-spoke neighbor, did I rave and rush and run; He was suppin' with a neighbor, just a few miles further on.
"Do you think," I loudly shouted, "that I need a mile o' wire For to save each separate hay-cock out o' heaven's consumin' fire? Did you think, to keep my buildin's out o' some uncertain harm, I was goin' to deed you over all the balance of my farm!"

He silenced me with silence in a very little while, And then trotted out the contract with a reassuring smile; And for half an hour explained it, with exasperatin' skill, While his myrmurdums kep' probably a runnin' up my bill. He held me to that contract with a firmness queer to see; 'Twas the very first occasion he had disagreed with me! And for that 'ere thunder story, ere the rascal finally went, I paid two hundred dollars, if I paid a single cent.

And if any lightnin'-rodist wants a dinner dialogue
With the restaurant department of an enterprisin' dog,
Let him set his mouth a-runnin' just inside my outside gate,
And I'll bet two hundred dollars that he won't have long to wait.



PETROLEUM V. NASBY.

HE isn't half so handsome as when, twenty years agone, At her old home in Piketon, Parson Avery made us one; The great house crowded full of guests of every degree, The girls all envying Hannah Jane, the boys all envying me.

Her fingers then were taper, and her skin as white as milk, Her brown hair—what a mess it was! and soft and fine as silk; No wind-moved willow by a brook had ever such a grace, The form of Aphrodite, with a pure Madonna face.

She had but meagre schooling; her little notes to me Were full of crooked pot-hooks, and the worst orthography: Her "dear" she spelled with double ϵ , and "kiss" with but one s; But when one's crazed with passion, what's a letter more or less?

She blundered in her writing, and she blundered when she spoke, And every rule of syntax, that old Murray made, she broke; But she was beautiful and fresh, and I—well, I was young; Her form and face o'erbalanced all the blunders of her tongue.

I was but little better. True, I'd longer been at school;

My tongue and pen were run, perhaps, a little more by rule;

But that was all. The neighbors round, who both of us well knew,

Said—which I believe—she was the better of the two.

All's changed: the light of seventeen's no longer in her eyes; Her wavy hair is gone—that loss the coiffeur's art supplies; Her form is thin and angular; she slightly forward bends; Her fingers, once so shapely, now are stumpy at the ends.

She knows but very little, and in little are we one:
The beauty rare, that more than hid that great defect, is gone.
My parvenu relations now deride my homely wife,
And pity me that I am tied to such a clod for life.

I know there is a difference; at reception and levee,
The brightest, wittiest and most famed of women smile on me;
And everywhere I hold my place among the greatest men;
And sometimes sigh, with Whittier's Judge, "Alas! it might have been."

When they all crowd around me, stately dames and brilliant belles, And yield to me the homage that all great success compels, Discussing art and state-craft, and literature as well, From Homer down to Thackeray, and Swedenborg on "Hell,"

I can't forget that from these streams my wife has never quaffed, Has never with Ophelia wept, nor with Jack Falstaff laughed; Of authors, actors, artists—why, she hardly knows the names; She slept while I was speaking on the Alubama claims.

I can't forget—just at this point another form appears— The wife I wedded as she was before my prosperous years; I travel o'er the dreary road we travelled side by side, And wonder what my share would be, if Justice should divide,

She had four hundred dollars left her from the old estate; On that we married, and, thus poorly armored, faced our fate. I wrestled with my books; her task was harder far than mine—'Twas how to make two hundred dollars do the work of nine.

FAMILIAR POEMS.

At last I was admitted; then I had my legal lore, An office with a stove and desk, of books perhaps a score; She had her beauty and her youth, and some housewifely skill, And love for me and faith in me, and back of that a will.

I had no friends behind me—no influence to aid; I worked and fought for every little inch of ground I made. And how she fought beside me! never woman lived on less; In two long years she never spent a single cent for dress.

Ah! how she cried for joy when my first legal fight was won, When our eclipse passed partly by, and we stood in the sun! The fee was fifty dollars—'t was the work of half a year— First captive, lean and scraggy, of my legal bow and spear.

I well remember when my coat (the only one I had)
Was seedy grown and threadbare, and, in fact, most shocking bad;
The tailor's stern remark when I a modest order made:
"Cash is the basis, sir, on which we tailors do our trade."

Her winter cloak was in his shop by noon that very day; She wrought on hickory shirts at night that tailor's skill to pay; I got a coat, and wore it; but alas! poor Hannah Jane Ne'er went to church or lecture till warm weather came again.

Our second season she refused a cloak of any sort, That I might have a decent suit in which t' appear in court; She made her last year's bonnet do, that I might have a hat: Talk of the old-time, flame-enveloped martyrs after that!

No negro ever worked so hard; a servant's pay to save, She made herself most willingly a household drudge and slave. What wonder that she never read a magazine or book, Combining as she did in one nurse, housemaid, seamstress, cook,

What wonder that the beauty fled, that I once so adored! Her beautiful complexion my fierce kitchen fire devoured; Her plump, soft, rounded arm was once too fair to be concealed; Hard work for me that softness into sinewy strength congealed.

I was her altar, and her love the sacrificial flame:

Ah! with what pure devotion she to that altar came,

And, tearful, flung thereon—alas! I did not know it then—

All that she was, and more than that, all that she might have been!



ROBERT BURNS.

JOHN ANDERSON, my jo, John,
When we were first acquent,
Your locks were like the raven,
Your bonnie brow was brent;
But now your brow is beld, John,
Your locks are like the snaw;
But blessings on your frosty pow,
John Anderson, my jo.



John Anderson, my jo, John,
We clamb the hill thegither;
And mony a canty day, John,
We've had wi' ane anither.
Now we maun totter down, John,
But hand in hand we'll go;
And sleep thegither at the foot,
John Anderson, my jo.



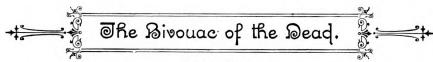
As published by Mr. Payne, in New York, in 1831.

Deleasures and palaces though we may roam,
Be it ever so humble, there's no place like home.
A charm from the skies seems to hallow us there,
Which seek through the world, is ne'er met with elsewhere.
Home! home! sweet, sweet home!
There's no place like home!

An exile from home, splendor dazzles in vain;
Oh, give me my lowly thatched cottage again.
The birds singing gaily that come to my call—
Give me them, with the peace of mind dearer than all.
Home! home! sweet, sweet home!
There's no place like home! there's no place like home

How sweet 'tis to sit 'neath a fond father's smile,
And the cares of a mother to soothe and beguile!
Let others delight 'mid new pleasures to roam,
But give, oh! give me the pleasures of home.
Home! home! sweet, sweet home!
There's no place like home!

To thee I'll return, overburdened with care;
The heart's dearest solace will smile on me there.
No more from that cottage again will I roam;
Be it ever so humble, there's no place like home.
Home! home! sweet, sweet home!
There's no place like home! there's no place like home!



THEODORE O'HARA.

The Legislature of Kentucky caused the dead of that State who fell at Buena Vista to be brought home and interred at Frankfort, under a splendid monument. Theodore O'Hara, a gifted Irish-Kentuckian soldier and scholar, was selected the orator and poet of the occasion, whence this beautiful eulogy, which has the same application to-day.

The muffled drum's sad roll has beat The soldier's last tattoo;
No more on life's parade shall meet
That brave and fallen few.
On fame's eternal camping-ground
Their silent tents are spread,
And glory guards, with solemn round,
The bivouac of the dead.

No rumor of the foe's advance Now swells upon the wind; No troubled thought at midnight haunts Of loved ones left behind; No vision of the morrow's strife The warrior's dream alarms; No braying horn nor screaming fife At dawn shall call to arms.

Their shivered swords are red with rust,
Their plumed heads are bowed;
Their haughty banner, trailed in dust,
Is now their martial shroud.
And plenteous funeral tears have washed
The red stains from each brow,
And the proud forms, by battle gashed,

Are free from anguish now.

The neighing troop, the flashing blade,
The bugle's stirring blast,
The charge, the dreadful cannonade,
The din and shout are past;
Nor war's wild note nor glory's peal
Shall thrill with fierce delight
Those breasts that never more may feel
The rapture of the fight.

Like the fierce northern hurricane
That sweeps his great plateau,
Flushed with the triumph yet to gain
Came down the serried foe.
Who heard the thunder of the fray
Break o'er the field beneath
Knew well the watchword of that day
Was "Victory or death."

Long had the doubtful conflict raged
O'er all that stricken plain—
For never fiercer fight had waged
The vengeful blood of Spain—
And still the storm of battle blew,
Still swelled the gory tide;
Not long, our stout old chieftain knew,
Such odds his strength could bide.

'Twas in that hour his stern command
Called to a martyr's grave
The flower of his beloved land,
The nation's flag to save.
By rivers of their fathers' gore
His first-Jorn laurels grew,
And well he deemed the sons would pour
Their lives for glory, too.

Full many a mother's breath had swept

O'er Angostura's plain—
And long the pitying sky has wept
Above the moldering slain.
The raven's scream, or eagle's flight,
Or shepherd's pensive lay,
Alone awakes each sullen height
That frowned o'er that dread fray.

Sons of the Dark and Bloody Ground, Ye must not slumber there, Where stranger steps and tongues resound Along the heedless air;

Your own proud land's heroic soil Shall be your fitter grave— She claims from war his richest spoil— The ashes of her brave.

So, 'neath their parent turf they rest,
Far from the gory field,
Borne to a Spartan mother's breast,
On many a bloody shield;
The sunshine of their native sky
Smiles sadly on them here,
And kindest eyes and hearts watch by
The heroes' sepulchre.

Rest on, embalmed and sainted dead, Dear as the blood ye gave; No impious footstep here shall tread The herbage of your grave; Nor shall your glory be forgot While fame her record keeps Or honor points the hallowed spot Where valor proudly sleeps.

Yon marble minstrel's voiceless stone
In deathless song shall tell,
When many a vanished age hath flown,
The story how ye fell;
Nor wreck, nor change, nor winter's blight,
Nor Time's remorseless doom,
Shall dim one ray of glory's light
That gilds your deathless tomb.





OLIVER WENDELL HOLMES.

HEN Eve had led her lord away, And Cain had killed his brother, The stars and flowers, the poets say Agreed with one another

To cheat the cunning tempter's art, And teach the race its duty, By keeping on its wicked heart Their eyes of light and beauty,

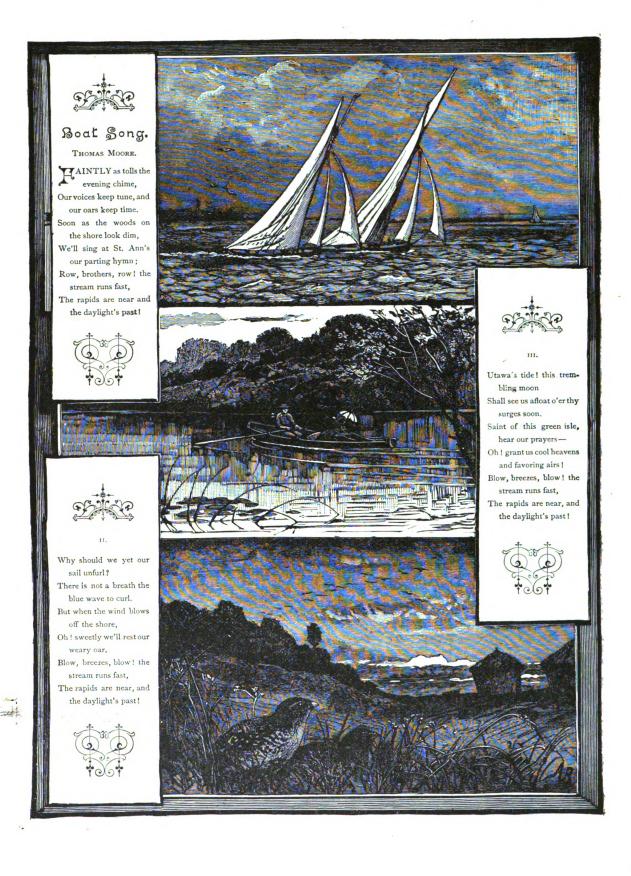
A million sleepless lids, they say, Will be at least a warning; And so the flowers would watch by day, The stars from eve to morning.



They try to shut their saddening eyes, And in the vain endeavor We see them twinkling in the skies, And so they wink forever. On hill and prairie, field and tawn, Their dewy eyes upturning. The flowers still watch from reddening dawn Till western skies are burning.

Alas! each hour of daylight tells
A tale of shame so crushing,
That some turn white as sea-bleached shells,
And some are always blushing.

But when the patient stars look down On all their light discovers, The traitor's smile, the murderer's frown, The lips of lying lovers,





F. BRET HARTE.

SAY there! P'r'aps
Some on you chaps
Might know Jim Wild?
Well—no offence:

Thar aint no sense
In gettin' riled!

Jim was my chum
Up on the Bar:
That's why I come
Down from up thar,
Lookin' for Jim.

Thank ye, sir! you
Ain't of that crew—
Blest if you are!

Money?—Not much:
That ain't my kind:
I ain't no such.
Rum?—I don't mind,
Secin' it's you.

Well, this yer Jim,
Did you know him?—
Jess 'bout your size;
Same kind of eyes?—
Well, that is strange:
Why, it's two year
Since he come here,
Sick, for a change.

Well, here's to us?
Eh?
The deuce you say!
Dead?
That little cuss?

What makes you star—
You, over thar?
Can't a man drop
's glass in yer shop
But you must rar'?
It wouldn't take
Derned much to break
You and your bar

Dead!
Poor—little—Jim!
—Why there was me,
Jones, and Bob Lee
Harry and Ben—
No-account men:
Then to take kim!

Well, thar— Good-by—
No more, sir,—I—
Eh?
What's that you say?—
Why, dern it !—sho!—
No? Yes! By Jo!
Sold?
Sold! Why, you limb,
You ornery
Derned old
Long-legged Jim!



Anonymous.

OUR beautiful Maggie was married to-day—Beautiful Maggie, with soft brown hair, Whose shadows fall o'er a face as fair As the snowy blooms of the early May; We have kissed her lips and sent her away, With many a blessing and many a prayer, The pet of our house who was married to-day.

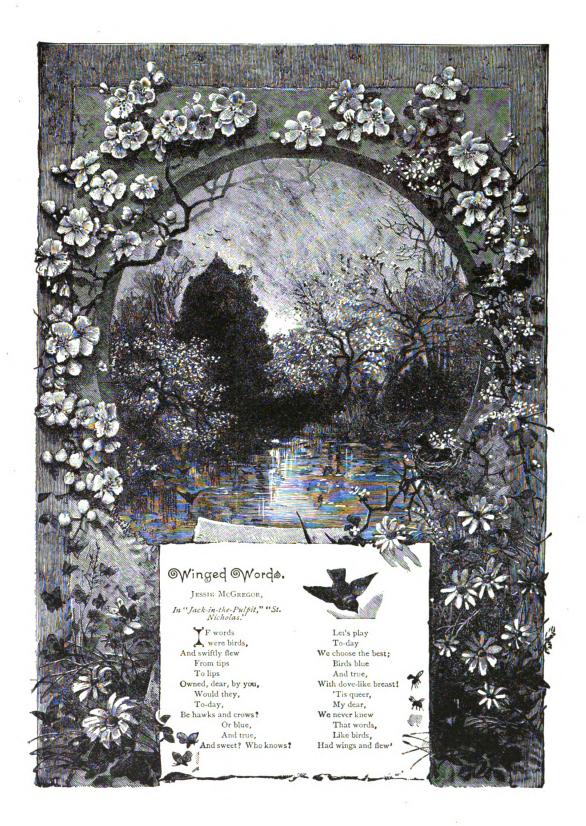
The sunshine is gone from the old south room,
Where she sat through the long, bright summer hours,
And the odor has gone from the window flowers,
And something is lost of their delicate bloom,
And a shadow creeps over the house with its gloom,
A shadow that over our paradise lowers,
For we see her no more in the old south room.

I thought that the song of the robin this eve,
As he sang to his mate on the sycamore tree.
Had minors of sadness to temper his glee,
As if he for the loss of our darling did grieve,
And asked, "Where is Maggie?" and "Why did she leave—
The maiden who carrolled sweet duets with me?"
For she mocked not the song of the robin this eve.

The pictures seem dim where they hang on the wa!!;
Though they cost but a trifle, they always looked fair,
Whether lamplight or sunlight illumined them there—
I think 'twas her presence that brightens them all.
Since Maggie no longer can come to our call,
With her eyes full of laughter, unshadowed by care,
The pictures seem dim where they hang on the wall.

I lounge through the garden, I stand by the gate—
She stood there to greet me last eve at this hour,
Every eve, through the summer, in sunshine or shower,
Just stood by the postern, my coming to wait—
Dear Maggie, her heart with its welcome elate,
To give me a smile, and a kiss, and a flower—
Oh! when will she meet me again by the gate?

She loved us and left us—she loves, and is gone
With the one she loves best, as his beautiful bride.
How fondly he called her his joy and his pride,
Our joy and our pride, whom he claims as his own!
But can he, like us, prize the heart he has won—
The heart that now trustingly throbs by his side?
God knows! and we know that she loves and is gone.





T. BUCHANAN READ.

The following is pronounced by the Westminster Review to be unquestionably the finest American poem ever written.

ITHIN this sober realm of leafless trees,
The russet year inhaled the dreamy air,
Like some tanned reaper in his nour of ease,
When all the fields are lying brown and bare.

The gray barns looking from their hazy hills
O'er the dim waters widening in the vales,
Sent down the air a greeting to the mills,
On the dull thunder of alternate flails.

All sights were mellowed and all sounds subdued,
The hills seemed further and the streams sang low;
As in a dream the distant woodman hewed
His winter log with many a muffled blow.

The embattled forests, erewhile armed in gold, Their banners bright with every martial hue, Now stood, like some sad beaten host of old, Withdrawn afar in Time's remotest blue.

On slumberous wings the vulture tried his flight:

The dove scarce heard his sighing mate's complaint;

And, like a star slow drowning in the light,

The village church-vane seemed to pale and faint.

The sentinel cock upon the hill-side crew— Crew thrice, and all was stiller than before— Silent till some replying wanderer blew His alien horn, and then was heard no more.

Where erst the jay within the elm's tall crest
Made garrulous trouble round the unfledged young:
And where the oriole hung her swaying nest
By every light wind like a censer swung;

Where sang the noisy masons of the eaves, The busy swallows circling ever near, Foreboding, as the rustic mind believes, An early harvest and a plenteous year;

Where every bird which charmed the vernal feast
Shook the sweet slumber from its wings at morn,
To warn the reapers of the rosy east—
All now was songless, empty, and forlorn

Alone, from out the stubble piped the quail,
And croaked the crow through all the dreamy gloom;
Alone the pheasant, drumming in the vale,
Made echo to the distant cottage loom.

There was no bud, no bloom upon the bowers;
The spiders wove their thin shrouds night by night;
The thistle-down, the only ghost of flowers,
Sailed slowly by—passed noiseless out of sight.

Amid all this, in this most cheerless air, And where the woodbine sheds upon the porch Its crimson leaves, as if the year stood there Firing the floor with his inverted torch—

Amid all this, the centre of the scene,
The white-haired matron, with monotonous tread,
Plied her swift wheel, and with her joyless mien
Sat like a Fate, and watched the flying thread.

She had known sorrow. He had walked with her, Oft supped, and broke with her the ashen crust; And in the dead leaves still she heard the stir Of his black mandle trailing in the dust.

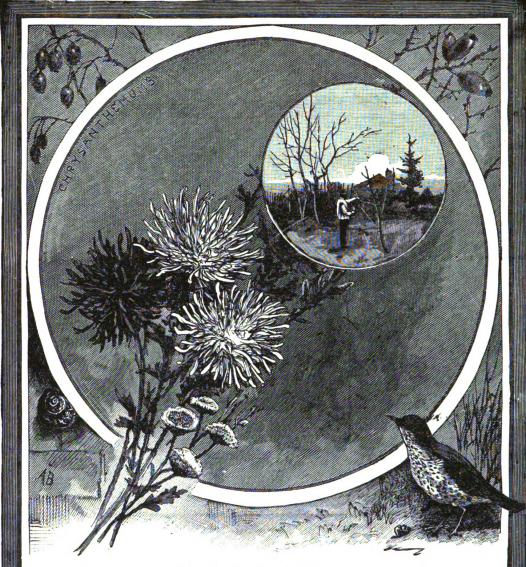
While yet her cheek was bright with summer bloom,
Her country summoned, and she gave her all;
And twice War bowed to her his sable plume—
Re-gave the swords to rust upon her wall.

Ro-gave the swords—but not the hand that drew, And struck for liberty the dying blow; Nor him who, to his sire and country true, Fell, 'mid the ranks of the invading foe.

Long, but not loud, the droning wheel went on,
Like the low murmur of a hive at noon;
Long, but not loud, the memory of the gone
Breathed through her lips a sad and tremulous tume

At last the thread was snapped—her head was bowed, Life dropped the distaff through his hands serene; And loving neighbors smoothed her careful shroud— While Death and Winter closed the autumn scene.





The Death of the Flowers.

WILLIAM CULLEN BRYANT.

HE melancholy days are come, the saddest of the year,
Of wailing winds, and naked woods, and meadows
brown and sear.
Heaped in the hollows of the grove, the autumn leaves lie dead;
They rustle to the eddying gust, and to the rabbit's tread.
The robin and the wren are flown, and from the shrubs the jay,
And from the wood-top calls the crow through all the gloomy
day.

Where are the flowers, the fair young flowers, that lately sprang and stood,
In brighter light and softer airs, a beauteous sisterhood?
Alas! they all are in their graves; the gentle race of flowers
Are lying in their lowly beds with the fair and good of ours.
The rain is falling where they lie; but the cold November rain
Calls not from out the gloomy earth the lovely ones again.

And then I think of one who in her youthful beauty died,
The fair meek blossom that grew up and faded by my side.
In the cold moist earth we laid her, when the forests cast the leaf,
And we wept that one so lovely should have a life so brief;
Yet not unmeet it was that one, like that young friend of ours,
So gentle and so beautiful, should perish with the flowers.



Arranged both Topically and Alphabetically.

Absence.

Conspicuous by his absence.

Sed præfulgebant Cassius atque Brutus, eo ipso
quod effigies eorum non videbantur.

Tacitus.

Absence makes the heart grow fonder; Isle of Beauty, fare thee well!

Thomas Haynes Bayley.

I dote on his very absence.

Skaksbere.

Your absence of mind we have borne, till your presence of body came to be called in question by it.

Lamb.

Accident.

A happy accident.

Mme. de Stael.

The accident of an accident.

Lord Thurlow.

Acquaintance.

Should auld acquaintance be forgot, And never brought to min'? Should auld acquaintance be forgot, And days o' lang syne?

Burns.

If there be no great love in the beginning, yet Heaven may decrease it upon better acquaintance, when we are married, and have more occasion to know one another: I hope upon familiarity will grow more contempt.

Skakspere.

Action.

Statesman, yet friend to truth! of soul sincere, In action faithful, and in honor clear; Who broke no promise, serv'd no private end, Who gain'd no title, and who lost no friend.

Pope.

What a piece of work is a man! How noble in reason! how infinite in faculties! in form and moving, how express and admirable! in action, how like an angel! in apprehension, how like a god!

Skakspere.

For since these arms of mine had seven years' pith, Till now some nine moons wasted, they have us'd Their dearest action in the tented field.

Shakspere.

In peace there's nothing so becomes a man As modest stillness and humility; But when the blast of war blows in our ears, Then imitate the action of the tiger: Stiffen the sinews, summon up the blood.

Shakspere.

With devotion's visage,
And plous action, we do sugar o'er
The Devil himself.

Shakspere.

Adversity.

A wretched soul, bruised with adversity.

kakstere

A man I am, cross'd with adversity.

Shakspere.

If thou faint in the day of adversity, thy strength is small.

Old Testament.

In the day of prosperity be joyful, but in the day of adversity consider Old Testament.

Sweet are the uses of adversity,
Which, like the toad, ugly and venomous,
Wears yet a precious jewel in his I ead;
And this our life, exempt from public haunt,
Finds tongues in trees, books in the running brooks,
Sermons in stones, and good in everything.

Shakspere.

The aromatic plants bestow
No spicy fragrance while they grow;
But crush'd, or trodden to the ground,
Diffuse their balmy sweets around.

The wretch condemn'd with life to part, Still, still on hope relies; And every pang that rends the heart Bids expectation rise.

Goldsmith.

Age.

My way of life

Is fall'n into the sear, the yellow leaf; And that which should accompany old age, As honor, love, obedience, troops of friends, I must not look to have.

Shakspere.

Me, let the tender office long engage
To rock the cradle of reposing age,
With lenient arts extend a mother's breath,
Make languor smile, and smooth the bed of death:
Explore the thought, explain the asking eye,
And keep awhile one parent from the sky

Pope.

The stars shall fade away, the sun himself Grow dim with age, and nature sink in years.

8. Addison

In a good old age.

Old Testament.

His hair just grizzled As in a green old age.

Dryden.

DICTIONARY OF PROSE AND POETICAL QUOTATIONS.

The Pyramids themselves, doting with age, have forgotten the names of their founders.

Fuller.

Alone.

So lonely 'twas, that God himself Scarce seemed there to be.

Coleridoe.

Like one that on a lonesome road Doth walk in fear and dread, And, having once turned round, walks on And turns no more his head, Because he knows a frightful fiend Doth close behind him tread.

Coleridge.

Alone !- that worn-out word, So idly, and so coldly heard; Yet all that poets sing, and grief hath known, Of hopes laid waste, knells in that word—ALONE! Bulwer Lytton.

Ambition.

When that the poor have cried, Cæsar hath wept: Ambition should be made of sterner stuff.

I have no spur To prick the sides of my intent; but only Vaulting ambition, which o'erleaps itself, And falls on the other.

Skakspere.

Here we may reign secure, and in my choice To reign is worth ambition, though in hell:

Angels.

O woman! lovely woman! nature made thee To temper man; we had been brutes without you. Angels are painted fair, to look like you: There's in you all that we believe in heaven: Amazing brightness, purity, and truth, Eternal joy, and everlasting love.

Otway.

He pass'd the flaming bounds of place and time: The living throne, the sapphire blaze, Where angels tremble while they gaze He saw; but, blasted with excess of light, Closed his eyes in endless night.

Gray.

Argument.

I have found you an argument; I am not obliged to find you an understanding.

Tokuson.

It would be argument for a week, laughter for a month, and a good

Skakspere.

He draweth out the thread of his verbosity finer than the staple of his argument. Shakspere.

Babe.

A babe in a house is a well-spring of pleasure.

And pity, like a naked, new-born babe.

Shakspere.

Oh! when a Mother meets on high The babe she lost in infancy, Hath she not then, for pains and fears, The day of woe, the watchful night, For all her sorrow, all her tears, An over-payment of delight?

Southey.

Battle.

And leaving in battle no blot on his name, Look proudly to heaven from the death-bed of fame. Campbell.

Ye mariners of England! That guard our native seas, Whose flag has braved a thousand years The battle and the breeze!

Campbell.

When the battle rages loud and long, And the stormy winds do blow.

Campbell,

And little of this great world can I speak, More than pertains to feats of broil and battle.

Shakspere.

But to the hero, when his sword Has won the battle for the free, Thy voice sounds like a prophet's word.

Halleck.

Wut's words to them whose faith and truth On War's red techstone rang true metal, Who ventured life an' love an' youth For the gret prize o' death in battle?

Lowell.

Beauty.

So stands the statue that enchants the world, So bending tries to veil the matchless boast, The mingled beauties of exulting Greece.

In naked beauty, more adorn'd, More lovely, than Pandora.

Millon

She walks in beauty, like the night Of cloudless climes and starry skies; And all that's best of dark and bright Meet in her aspect and her eyes; Thus mellow'd to that tender light Which Heaven to gaudy day denies.

Byron.

Biessing.

Blessings be with them, and eternal praise, Who gave us nobler loves, and nobler cares, The Poets, who on earth have made us heirs Of truth and pure delight by heavenly lays!

Blessings on him who invented sleep, the mantle that covers all human thoughts, the food that appeases hunger, the drink that quenches thirst, the fire that warms cold, the cold that moderates heat, and lastly, the general coin that purchases all things, the balance and weight that equals the shepherd with the king, and the simple with the wise.

Hush, my dear, lie still and slumber! Holy angels guard thy bed! Heavenly blessings without number Gently falling on thy head.

Watts.

Blush.

But 'neath you crimson tree, Lover to listening maid might breathe his flame, Nor mark, within its roscate canopy, Her blush of maiden shame.

We grieved, we sighed, we wept. we never blushed before, Cowley.

> This is the state of man: to-day he puts forth The tender leaves of hope, to-morrow blossoms, And bears his blushing honors thick upon him: The third day, comes a frost, a killing frost; And-when he thinks, good easy man, full surely His greatness is a ripening-nips his root, And then he falls.

Shakspere.

To the nuptial bower I led her, blushing like the morn. Millon.

Burden.

Every man shall bear his own burden.

New Testament.

For other things mild Heav'n a time ordains, And disapproves that care, though wise in show, That with superfluous burden loads the day, And, when God sends a cheerful hour, refrains.

And the gay grandsire, skill'd in gestic lore, Has frisk'd beneath the burden of threescore

Goldsmith.

Out from the heart of Nature rolled The burdens of the Bible old.

Emerson.

Business.

A dinner lubricates business

Lord Stowell.

Seest thou a man diligent in his business? he shall stand before kings; he shall not stand before mean men. Old Testament.

> Of seeming arms to make a short essay, Then hasten to be drunk, the business of the day. Dryden.

> > Despatch is the soul of business.

Chesterfield.

How doth the little busy bee Improve each shining hour?

Watts.

The armorers, accomplishing the knights, With busy hammers closing rivets up, Give dreadful note of preparation.

Skakspere.

Calm.

Rest here, distrest by poverty no more, Here find that calm thou gav'st so oft before; Sleep, undisturb'd, within this peaceful shrine, Till angels wake thee with a note like thine! Johnson.

Ne'er saw I, never felt, a calm so deep! The river glideth at his own sweet will; Dear God! the very houses seem asleep; And all that mighty heart is lying still!

Wordsworth.

And, through the heat of conflict, keeps the law In calmness made, and sees what he foresaw.

Care.

Care to our coffin adds a nail, no doubt, And every grin, so merry, draws one out.

Let the world glide, let the world go: A fig for care, and a fig for woe! If I can't pay, why, I can owe, And death makes equal the high and low.

Heywood.

Shall I, wasting in despair, Die because a woman's fair? Or make pale my cheeks with care, 'Cause another's rosy are? Be she fairer than the day, Or the flow'ry meads in May, If she be not so to me, What care I how fair she be?

Wither.

Hang sorrow! care will kill a cat, And threescore let's be merry.

Wither.

If the heart of a man is depress'd with cares, The mist is dispell'd when a woman appears.

Gay.

Charity.

An old man, broken with the storms of state, Is come to lay his weary hones among ye; Give him a little earth for charity!

Shakspere.

In Faith and Hope the world will disagree, But all mankind's concern is Charity.

Charity shall cover the multitude of sins. New Testament.

Careless their merits or their faults to scan, His pity gave ere charity began. Goldsmith.

Chastity.

Early, bright, transient, chaste, as the morning, She sparkled, was exhaled, and went to heaven.

As chaste as unsunned snow.

Skakspere.

That chastity of honor which felt a stain like a wound. Burke.

> So dear to Heaven is saintly chastity, That, when a soul is found sincerely so, A thousand liveried angels lackey her, Driving far off each thing of sin and guilt.

Milton.

Childhood.

Ah, happy hills! ah, pleasing shade! Ah, fields belov'd in vain! Where once my careless childhood stray'd, A stranger yet to pain!

Gray.

I have had playmates, I have had companions, In my days of childhood, in my joyful school-days: All are gone, the old familiar faces.

The childhood shows the man As morning shows the day.

Milton

The children like olive plants round about thy table. Old Testament.

By sports like these are all their cares beguil'd; The sports of children satisfy the child.

Goldsmith.

Dancing.

Midnight shout and revelry, Tipsy dance and jollity.

Milton.

On with the dance! let joy be unconfined.

Byron.

And bear about the mockery of woe To midnight dances and the public show.

Pope.

Doubt.

No hinge, nor loop To hang a doubt on.

Shakspere.

Doubt thou the stars are fire, Doubt that the sun doth move; Doubt truth to be a liar, But never doubt I love.

And better had they ne'er been born, Who read to doubt, or read to scorn.

Scott.

Dreams.

Hunt half a day for a forgotten dream.

Wordsworth.

Who has not felt how sadly sweet The dream of home, the dream of home, Steals o'er the heart, too soon to fleet, When far o'er sea or land we roam?

Which are the children of an idle brain. Begot of nothing but vain fantasy.

True, I talk of dreams,

Shakspere.

Dust.

How lov'd, how honor'd once, avails thee not, To whom related, or by whom begot: A heap of dust alone remains of thee; 'Tis all thou art, and all the proud shall be!

Pope.

The knight's bones are dust, And his good sword rust; His soul is with the saints, I trust.

Coleridge.

Earth.

Earth felt the wound; and Nature from her seat, Sighing through all her works, gave signs of woe, That all was lost.

Milton.

The common growth of Mother Earth Suffices me-her tears, her mirth, Her humblest mirth and tears.

Wordsworth.

Earth, with her thousand voices, praises God.

Coleridge.

How blest is he who crowns, in shades like these A youth of labor with an age of ease!

Goldsmith.

Shall I not take mine ease in mine inn?

Skakspere.

Nor peace nor ease the heart can know, Which, like the needle true, Turns at the touch of joy or woe, But, turning, trembles too.

Mrs. Greville.

Error.

To err is human, to forgive divine.

Pope.

Truth crushed to earth shall rise again; The eternal years of God are hers; But Error, wounded, writhes with pain, And dies among his worshippers.

Bryont.

Eternity.

'Tis the divinity that stirs within us; 'Tis Heaven itself that points out an hereafter, And intimates eternity to man. Eternity! thou pleasing, dreadful thought!

Addison.

But there are wanderers o'er Eternity Whose bark drives on and on, and anchor'd ne'er shall be. Byron.

Faith.

Happy he With such a mother! faith in womanhood Beats with his blood, and trust in all things high Comes easy to him, and, though he trip and fall, He shall not blind his soul with clay.

One in whom persuasion and belief Had ripened into faith, and faith become A passionate intuition.

Wordsworth.

Tennyson.

Faith is the substance of things hoped for, the evidence of things not seen.

New Testament.

Farewell.

I only know we loved in vain-I only feel-Farewell!-Farewell!

Byron.

Oh, now, forever, Farewell the tranquil mind! farewell content! Farewell the ploomed troop, and the big wars, That make ambition virtue! Oh, farewell! Farewell the neighing steed, and the shrill trump, The spirit-stirring drum, th' ear-piercing fife, The royal banner, and all quality, Pride, pomp and circumstance of glorious war! And, O you mortal engines, whose rude throats The immortal Jove's dread clamors counterfeit, Farewell! Othello's occupation's gone!

Folly.

A fool must now and then be right by chance.

Cowper.

For fools rush in where angels fear to tread.

Of all causes which conspire to blind Man's erring judgment, and misguide the mind, What the weak head with strongest bias rules, Is pride, the never-failing vice of fools.

Forgetfulness.

Go, forget me-why should sorrow O'er that brow a shadow fling? Go, forget me-and to-morrow Brightly smile and sweetly sing. Smile-though I shall not be near thee; Sing-though I shall never hear thee.

Wolfe.

Freedom.

We must be free or die, who speak the tongue That Shakspere spake; the faith and morals hold Which Milton held.

Wordsworth.

I am as free as nature first made man, Ere the base laws of servitude began, When wild in the woods the noble savage ran.

Dryden.

No. Freedom has a thousand charms to show. That slaves, howe'er contented, never know.

That this nation, under God, shall have a new birth of freedom, and that government of the people, by the people, for the people, shall not perish from the earth. Abraham Lincoln.

Glory.

'Tis beauty calls, and glory leads the way.

Avoid shame, but do not seek glory-nothing so expensive as glory. Sydney Smith.

I have touch'd the highest point of all my greatness, And from that full meridian of my glory I haste now to my setting: I shall fall Like a bright exhalation in the evening, And no man see me more.

Byron.

God.

Had I but serv'd my God with half the seal I serv'd my king, he would not in mine age Have left me naked to mine enemies.

Shakspere.

Just are the ways of God. And justifiable to men; Unless there be who think not God at all.

Milton.

God helps them that help themselves.

Franklin.

Lo, the poor Indian! whose untutored mind Sees God in clouds, or hears him in the wind; His soul proud Science never taught to stray Far as the solar walk or milky way.

God sendeth, and giveth, both mouth and the meat. Thomas Tusser.

Grief.

Every one can master a grief but he that has it. Skakspere.

Happiness.

Domestic Happiness, thou only bliss Of Paradise that has surviv'd the fall!

Comber.

O happiness! our being's end and aim! Good, pleasure, ease, content i whate'er thy name That something still which prompts th' eternal sigh, For which we bear to live, or dare to die.

How bitter a thing it is to look into happiness through another man's eyes!

Shakspere.

All who joy would win Must share it: Happiness was born a twin.

Byron.

Heaven.

'Tis heaven alone that is given away; Tis heaven alone that is given asking.

Tis only God may be had for the asking.

Lowell.

Thus, when the lamp that lighted The traveller at first goes out, He feels awhile benighted, And looks around in fear and doubt. But soon, the prospect clearing, By cloudless starlight on he treads, And thinks no lamp so cheering As that light which heaven sheds.

Moore.

Sit, Jessica; look, how the floor of heaven Is thick inlaid with patines of bright gold; There's not the smallest orb which thou behold'st But in his motion like an angel sings, Still quiring to the young-eyed cherubins: Such harmony is in immortal souls; But, whilst this muddy vesture of decay But, whilst this muddy vesture of cour,

Doth grossly close it in, we cannot hear it.

Shakspere.

Heaven open'd wide Her ever-during gates, harmonious sound On golden hinges moving.

Milton.

To heirs unknown descends th' unguarded store, Or wanders, heaven-directed, to the poor.

Pope.

Hell.

Hell is paved with good intentions.

Johnson.

Which way shall I fly, Infinite wrath, and infinite despair? Which way I fly is hell; myself am hell; And, in the lowest deep, a lower deep, Still threat'ning to devour me, opens wide, To which the hell I suffer seems a heaven.

Milton.

Full little knowest thou that hast not tried, What hell it is in suing long to bide; To loose good dayes that might be better spent, To wast long nights in pensive discontent; To speed to-day, to be put back to-morrow; To feed on hope, to pine with feare and sorrow.

Honesty.

Every honest miller has a golden thumb.

Old Saying.

Hope.

Thus heavenly hope is all serene,
But earthly hope, how bright soe'er,
Still fluctuates o'er this changing scene,
As false and fleeting as 'tis fair.

Heber

Cease, every joy, to glimmer on my mind, But leave—oh! leave the light of Hope behind! What though my winged hours of bliss have been, Like angel-visits, few and far between.

Campbell.

Hope! thou nurse of young desire.

Bickerstaff.

Hope springs eternal in the human breast: Man never is, but always to be blest. The soul, uneasy, and confin'd from home, Rests and expatiates in a life to come.

Pope.

Sail on, O.Ship of State! Sail on, O Union, strong and great! Humanity with all its fears, With all the hopes of future years, Is hanging breathless on thy fate!

Longfellow.

idieness.

How various his employments, whom the world Calls idle; and who justly in return Esteems that busy world an idler too!

Cowper.

In idle wishes fools supinely stay; Be there a will, and wisdom finds a way.

Crabbe.

Immortality.

There is no death! an angel form
Walks o'er the earth with silent tread,
He bears our best-loved things away,
And then we call them "dead."

Harvey

There is no death! What seems so is transition, This life of mortal breath Is but a suburb of the life elysian, Whose portal we call death.

Long fellow.

Though inland far we be,
Our souls have sight of that immortal sea
Which brought us hither.

Wordsworth.

Our dissatisfaction with any other solution is the blazing evidence of immortality.

Emerson.

Innocence.

An age that melts in unperceiv'd decay, And glides in modest innocence away.

Johnson.

He's armed without that's innocent within.

Pope

Jealousy.

Trifles, light as air,
Are to the jealous confirmations strong
As proofs of Holy Writ.

Shakspere.

Love is strong as death; jealousy is cruel as the grave.

Old Testament.

First, then, a woman will, or won't, depend on't; If she will do't, she will; and there's an end on't. But if she won't, since safe and sound your trust is, Fear is affront, and jealousy injustice.

Hill.

Jesting.

Of all the griefs that harass the distrest, Sure the most bitter is a scornful jest.

Tokuson.

A jest's prosperity lies in the ear Of him that hears it, never in the tongue Of him that makes it.

Shakspere.

Haste thee, Nymph, and bring with thee Jest, and youthful Jollity, Quips, and Cranks, and wanton Wiles, Nods, and Becks, and wreathed Smiles.

Milton.

Joy.

And e'en while fashion's brightest arts decoy, The heart, distrusting, asks if this be joy.

Goldsmith.

Reason's whole pleasure, all the joys of sense, Life in three words—health, peace and competence.

Pope.

Silence is the perfectest herald of joy: I were but little happy, if I could say how much.

Skakspere.

Bliss in possession will not last; Remember'd joys are never past; At once the fountain, stream and sea, They were, they are, they yet shall be

oe Montgomery.

There's not a joy the world can give like that it takes away.

Byron.

From our own selves our joys must flow, And that dear hut—our home.

Còlion.

Oh, the Joys that came down shower-like, Of Friendship, Love and Liberty, Ere I was old!

Coleridge.

Justice.

Fiat Justitia ruat coelum.

Terence.

We but teach
Bloody instructions, which, being taught, return
To plague the inventor. This even-handed justice
Commends the ingredients of our poison'd chalice
To our own lips.

Shakspere.

What stronger breastplate than a heart untainted? Thrice is he arm'd that hath his quarrel just; And he but naked, though lock'd up in steel, Whose conscience with injustice is corrupted.

Skakspere.

Between two hawks, which flies the higher pitch; Between two dogs, which hath the deeper mouth; Between two horses, which doth bear him best; Between two girls, which hath the merriest eye— I have, perhaps, some shallow spirit of judgment; But in these nice sharp quillets of the law, Good faith, I am no wiser than a daw.

Shakspere.

Kindness.

Assume a virtue, if you have it not. I must be cruel, only to be kind: Thus bad begins, and worse remains behind. Skakspere.

Howe'er it be, it seems to me, 'Tis only noble to be good. Kind hearts are more than coronets, And simple faith than Norman blood.

And kind as kings upon their coronation day.

Dryden.

Yet do I fear thy nature: It is too full o' the milk of human kindness.

Shakspere.

The King.

Not all the waters in the rough, rude sea Can wash the balm from an anointed king.

Skakspere.

A man may fish with the worm that hath eat of a king; and eat of the fish that hath fed of that worm. Skakspere.

Ay, every inch a king.

Shakspere.

The king's name is a tower of strength.

Shakspere.

The right divine of kings to govern wrong.

Skakspere.

Kissing.

Be plain in dress, and sober in your diet; Be plain in cress, and some in grant In short, my deary: kiss me and be quiet.

Montague.

Then come kiss me, sweet-and-twenty.

Skakspere.

O Love, O fire! once he drew With one long kiss my whole soul through My lips, as sunlight drinketh dew.

Tennyson.

The kiss, snatched hasty from the sidelong maid.

A long, long kiss, a kiss of youth and love.

Byron.

Knavery.

Now will I show myself to have more of the serpent than the dove; that is, more knave than fool.

Marlowe.

Whip me such honest knaves.

Skakspere.

Knowledge.

Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information upon it.

Johnson.

Half our knowledge we must snatch, not take.

Pobe.

Knowledge is power.

Bacon.

A wise man is strong; yea, a man of knowledge increaseth strength. Old Testament.

Histories make men wise; poets, witty; the mathematics, subtle; natural philosophy, deep; morals, grave; logic and rhetoric, able to contend.

Man goeth forth unto his work and to his labor until the evening. Old Testament.

Honest labor bears's lovely face.

Dekker.

So he with difficulty and labor hard Mov'd on, with difficulty and labor he.

Milton.

The laborer is worthy of his hire.

New Testament.

The Ladies.

A lion among ladies is a most dreadful thing.

If ladies be but young and fair, They have the gift to know it.

Skakspere.

Ladies, whose bright eyes Rain influence, and judge the prize.

Milton.

And when a lady's in the case, You know all other things give place.

Gay.

The Land.

Ill fares the land, to hastening ills a prey, When wealth accumulates and men decay; Princes and lords may flourish and may fade, A breath can make them as a breath has made, But an honest peasantry, a country's pride, When once destroyed, can never be supplied.

Goldsmith.

Breathes there the man, with soul so dead, Who never to himself hath said, This is my own, my native land! Whose heart hath ne'er within him burned, As home his footsteps he hath turned From wandering on a foreign strand?

Scott.

There's nie sorrow there, John, There's neither cauld nor care, John, The day is aye fair, In the land o' the leal.

Lady Nairne.

Laughter.

They laugh that win.

Shakspere.

There was a laughing Devil in his sneer.

Byron

You hear that boy laughing?-you think he's all fun; But the angels laugh, too, at the good he has done; The children laugh loud as they troop to his call, And the poor man that knows him laughs loudest of all! Holmes.

And Laughter holding both his sides.

Milton.

The Law.

- 1 Clo. Argal, he that is not guilty of his own death shortens not his own life.
- 2 Clo. But is this law?
- 1 Clo. Ay, marry, is't; crowner's-quest law.

Shakspere.

When law ends, tyranny begins.

Pitt.

No man e'er felt the halter draw, With good opinion of the law.

Trumbull.

Of Law there can be no less acknowledged, than that her seat is the bosom of God, her voice the harmony of the world: all things in heaven and earth do her homage, the very least as feeling her care, and the greatest as not exempted from her power.

Hooker.

The law is a sort of hocus pocus science, that smiles in yer face while it picks yer pocket; and the glorious uncertainty of it is of mair use to the professors than the justice of it.

Macklin.

Learning.

Some for renown on scraps of learning dote, And think they grow immortal as they quote.

Young.

With just enough of learning to misquote.

Byron.

Liberty.

Is life so dear, or peace so sweet, as to be purchased at the price of chains and slavery? Forbid it Almighty God! I know not what course others may take; but, as for me, give me liberty, or give me death.

Patrick Henry.

Liberty's in every blow! Let us do or die.

Burns.

O liberty! liberty! how many crimes are committed in thy name!

Mme. Roland.

Behold! in liberty's unclouded blaze We lift our heads, a race of other days.

Sprague.

Life.

I do not set my life at a pin's fee.

Skakspere.

The world's a bubble, and the life of man Less than a span.

Bacon.

We are such stuff
As dreams are made on: and our little life
Is rounded with a sleep.

Shakspere.

A sacred burden is this life ye bear, Look on it, lift it, bear it solemnly, Stand up and walk beneath it steadfastly. Fail not for sorrow, falter not for sin, But onward, upward, till the goal ye win.

Kemble.

Life's but a means unto an end; that end Beginning, mean and end to all things—God.

Bailey.

That life is long which answers life's great end.

Young.

Our life is but a winter day
Some only breakfast and away
others to dinner stay
and are full fed
the oldest man but sups
and goes to bed
large is his debt
that lingers out the day
he that goes soonest
has the least to pay.

Epitaph.

Love.

A mighty pain to love it is, And 'tis a pain that pain to miss; But of all pain, the greatest pain It is to love, but love in vain.

Cowley.

Love looks not with the eyes, but with the mind, And therefore is wing'd Cupid painted blind.

Skakspere.

Mightier far
Than strength of nerve or sinew, or the sway
Of magic potent over sun and star,
Is Love, though oft to agony distrest,
And though his favorite seat be feeble woman's breast.

Wordsworth.

But to see her was to love her, Love but her and love forever.

Burns.

Had we never loved sae kindly, Had we never loved sae blindly, Never met or never parted, We had ne'er been broken-hearted.

Burns.

Men have died from time to time and worms have eaten them, but not from love.

Shakspere.

Oh, my luve's like a red, red rose, That's newly sprung in June, Oh, my luve's like a melodie That's sweetly played in tune.

Burns.

Alas! the love of woman! it is known To be a lovely and a fearful thing.

Byron.

Man's love is of man's life a thing apart, 'Tis woman's whole existence.

Byron.

For stony limits cannot hold love out.

Shakspere.

Madness.

Great wit is sure to madness near allied, And thin partitions do their bounds divide.

Dryden.

This is very midsummer madness.

Shakspere.

Though this be madness, yet there's method in't.

Shakspere.

To be wroth with one we love

Doth work like madness on the brain.

Coleridge.

And moody madness laughing wild, Amid severest woe.

Gray.

Cure her of that:

Canst thou not minister to a mind diseas'd,

Pluck from the memory a rooted sorrow,

Raze out the written troubles of the brain?

Shakspere.

Maidenhood.

Maidens, like moths, are ever caught by glare,
And Mammon wins his way where Seraphs might despair.

Byron.

The maid who modestly conceals Her beauties, while she hides, reveals; Give but a glimpse, and fancy draws Whate'er the Grecian Venus was.

Edward Moore.

She dwelt among the untrodden ways
Beside the spring of Love,
A maid whom there were none to praise
And very few to love.

Wordsworth

And when once the young heart of a maiden is stolen, The maiden herself will steal after it soon.

Moore.

Standing with reluctant feet Where the brook and river meet, Womanhood and childhood fleet!

Longfellow.

Wretched un-idea'd girls.

Johnson.

Man.

An honest man's the noblest work of God.

A very unclubable man.

Pope. Fokuson.

Before man made us citizens, great Nature made us men.

I dare do all that may become a man; Who dares do more is none.

Shakspere.

Adam the goodliest man of men since born His sons; the fairest of her daughters Eve.

Milton.

For contemplation he and valor form'd, For softness she and sweet attractive grace; He for God only, she for God in him. His fair large front and eyes sublime declar'd Absolute rule.

Milton.

Like leaves on trees the race of man is found, Now green in youth, now withering on the ground: Another race the following spring supplies; They fall successive, and successive rise.

Pote

All the world's a stage And all the men and women merely players; They have their exits and their entrances; And one man in his time plays many parts His acts being seven ages. At first, the Infant, Mewling and puking in the nurse's arms. Then the whining School-boy, with his satchel And shining morning face, creeping like snail Unwillingly to school. And then the Lover, Sighing like furnace, with a woful ballad Made to his mistress' eyebrow. Then a Soldier, Full of strange oaths, and bearded like the pard; Jealous in honor, sudden and quick in quarrel, Seeking the bubble reputation Even to the cannon's mouth. And then the Justice, In fair round belly with good capon lin'd, With eyes severe and beard of formal cut, Full of wise saws and nodern instances And so he plays his part. The sixth age shifts Into the lean and slipper'd Pantaloon, His youthful hose well sav'd, a world too wide For his shrunk shank; and his big manly voice, Turning again toward childish treble, pipes And whistles in his sound. Last scene of all,

That ends this strange, eventful history,
Is second childishness and mere oblivion;
Sans teeth, sans eyes, sans taste, sans—everything.
Skakspere.

Marriage.

Choose not alone a proper mate, But proper time to marry.

Cooter.

Let me not to the marriage of true minds Admit impediments: love is not love Which alters when it alteration finds,

Shakspere.

How much the wife is dearer than the bride.

Lyttelton.

Such duty as the subject owes the prince, Even such a woman oweth to her husband.

Shakspere.

You are my true and honorable wife; As dear to me as are the ruddy drops That visit my sad heart,

Skakspere.

With secret course, which no loud storms annoy, Glides the smooth current of domestic joy.

Fohnson.

Is not marriage an open question when it is alleged from the beginning of the world that such as are in the institution wish to get out, and such as are out wish to get in?

R. W. Emerson.

She what was honor knew,
And with obsequious majesty approv'd
My pleaded reason. To the nuptial bower
I led her, blushing like the morn: all heaven,
And happy constellations on that hour
Shed their selectest influence; the earth
Gave sign of gratulation, and each hill;
Joyous the birds; fresh gales and gentle airs
Whisper'd it to the woods, and from their wings
Flung rose, flung odors from the spicy shrub.

. Milton.

Melancholy.

Sweet bird, that shunn'st the noise of folly, Most musical, most melancholy!

Milton.

And, with a green and yellow melancholy, She sat, like Patience on a monument, Smiling at grief.

Shakspere.

Go—you may call it madness, folly; You shall not chase my gloom away! There's such a charm in melancholy I would not, if I could, be gay.

Rogers.

There's naught in this life sweet.

If man were wise to see't,

But only melancholy;

Oh, sweetest Melancholy!

Fletcher.

The melancholy days are come, the saddest of the year,
Of wailing winds, and naked woods, and meadows brown and scar.

Bryant.

Memory.

Time whereof the memory of man runneth not to the contrary.

Blackstone.

And, when the stream Which overflowed the soul was passed away, A consciousness remained that it had left, Deposited upon the silent shore Of memory, images and precious thoughts That shall not die, and cannot be destroyed. Wordsworth.

> Music, when soft voices die, Vibrates in the memory; Odors, when sweet violets sicken, Live within the sense they quicken.

Shelley.

This is the truth the poet sings. That a sorrow's crown of sorrow is remembering happier things. Tennyson.

> While memory holds a seat In this distracted globe. Remember thee? Yea, from the table of my memory I'll wipe away all trivial fond records.

Skakspere.

The memory of the just is blessed.

Old Testament.

Mercy.

The quality of mercy is not strain'd; It droppeth as the gentle rain from heaven Upon the place beneath: it is twice bless'd; It blesseth him that gives, and him that takes: 'Tis mightiest in the mightiest: it becomes The throned monarch better than his crown: His sceptre shows the force of temporal power, The attribute to awe and majesty, Wherein doth sit the dread and fear of kings; But mercy is above this sceptred sway: It is enthroned in the hearts of kings. It is an attribute to God himself, And earthly power doth then show likest God's, When mercy seasons justice. Therefore, Jew, Though justice be thy plea, consider this:-That in the course of justice none of us Should see salvation: we do pray for mercy, And that same prayer doth teach us all to render The deeds of mercy.

Skakspere.

That mercy I to others show. That mercy show to me.

Pope.

Sweet mercy is nobility's true badge.

Shakspere.

Mind.

My mind to me a kingdom is: Such present joys therein I find That it excels all other bliss That earth affords or grows by kind: Though much I want which most would have, Yet still my mind forbids to crave.

Dyer.

My mind to me an empire is While grace affordeth health.

'Tis strange the mind, that very fiery particle, Should let itself be snuff'd out by an article.

I, thus neglecting worldly ends, all dedicated To closeness, and the bettering of my mind.

Skakspere.

Be ye all of one mind.

Old Testament.

Vain, very vain, my weary search to find That bliss which only centres in the mind.

Goldsmith.

Misery.

Misery acquaints a man with strange bedfellows. Skakspere.

Our sympathy is cold to the relation of distant misery. Gibbon.

He gave to misery (all he had) a tear, He gain'd from Heaven ('twas all he wished) a friend. Gray.

In misery's darkest cavern known, His useful care was ever nigh Where hopeless anguish pour'd his groan, And lonely want retired to die. Tohnson.

Modesty.

He saw her charming, but he saw not half The charms her downcast modesty conceal'd.

The chariest maid is prodigal enough If she unmask her beauty to the moon.

Shakspere.

And on their own merits modest men are dumb.

Colman.

Not stepping o'er the bounds of modesty.

Sha**ksp**ere.

Thy modesty's a candle to thy merit.

Fielding.

Suit the action to the word, the word to the action, with this special observance, that you o'erstep not the modesty of nature.

Shakspere

Money.

Put money in thy purse.

Shakspere.

Get money; still get money, boy;

No matter by what means.

Fonson.

The love of money is the root of all evil.

New Testament.

This bank-note world.

Halleck.

For what is worth in anything But so much money as 'twill bring?

Rutler

Hath a dog money? Is it possible A cur can lend three thousand ducats?

Shakspere.

Motherhood.

A mother is a mother still. The holiest thing alive.

Coleridge.

Where yet was ever found a mother Who'd give her booby for another?

Gay.

Music.

As sweet and musical As bright Apollo's lute, strung with his hair; And when Love speaks, the voice of all the gods Makes heaven drowsy with the harmony.

Skakspere.

Bright gem instinct with music, vocal spark.

Wordsworth.

He makes sweet music with th' enamel'd stones, Giving a gentle kiss to every sedge He overtaketh in his pilgrimage.

Shakspere.

His very foot hath music in 't As he comes up the stairs.

Mickle.

Sundays observe: think when the bells do chime 'Tis angels' music.

4orhort

That strain again; it had a dying fall: Oh, it came o'er my ear like the sweet south, That breathes upon a bank of violets, Stealing and giving odor.

Shakspere.

It will discourse most eloquent music.

Shakspere.

The man that hath no music in himself,
Nor is not mov'd with concord of sweet sounds,
Is fit for treasons, stratagems and spoils:
The motions of his spirit are dull as night,
And his affections dark as Erebus.
Let no such man be trusted.

Shakspere.

Music hath charms to soothe the savage breast, To soften rocks, or bend a knotted oak.

Congreve.

When Music, heavenly maid, was young, While yet in early Greece she sung.

Collins.

The music in my heart I bore Long after it was heard no more.

Wordsworth.

Nature.

Come forth into the light of things; Let nature be your teacher.

Wordsworth.

The course of nature is the art of God.

Toung.

One touch of nature makes the whole world kin.

Shakspere.

Diseased nature sometimes breaks forth In strange eruptions.

Shakspere.

Accuse not nature; she hath done her part: Do thou but thine.

Milton.

Night.

Night is the time to weep; To wet with unseen tears Those graves of memory where sleep The joys of other years.

Montgomery.

How beautiful is night!

A dewy freshness fills the silent air;

No mist obscures, nor cloud, nor speck, nor stain,
Breaks the serene of heaven:
In full-orbed glory, yonder moon divine
Rolls through the dark-blue depths.
Beneath her steady ray
The desert-circle spreads,
Like the round ocean, girdled with the sky.
How beautiful is night!

Southey.

Here in the body pent,
Absent from Him I roam;
Yet nightly pitch my moving tent
A day's march nearer home.

Montgomery.

O night,
And storm, and darkness! ye are wondrous strong,
Yet lovely in your strength, as is the light
Of a dark eye in woman!

Byron.

Where eldest Night And Chaos, ancestors of Nature, hold Rternal anarchy amidst the noise Of endless wars, and by confusion stand.

Milton.

Murmuring, and with him fled the shades of night.

Milton.

You meaner beauties of the night, That poorly satisfy our eyes More by your number than your light, You common people of the skies— What are you when the moon shall rise?

Wolten.

Good night, good night: parting is such sweet sorrow,
That I shall say good night till it be morrow.

Shakspere.

Pain.

Rich the treasure, Sweet the pleasure, Sweet is pleasure after pain.

Dryden.

So when a raging fever burns, We shift from side to side by turns, And 'tis a poor relief we gain To change the place, but keep the pain.

Watts.

The labor we delight in physics pain.

Skakspere.

To frown at pleasure, and to smile in pain.

Young.

Pains of love be sweeter far Than all other pleasures are.

Dryden.

Patience.

This flower of wifely patience.

Chaucer.

The worst speak something good: if all want sense, God takes a text and preacheth patience.

Herbert.

Like patience on a monument.

Skakspere.

Patience and sorrow strove,

Who should express her goodliest.

Shakspere.

'Tis all men's office to speak patience
To those that wring under the load of sorrow,
But no man's virtue, nor sufficiency,
To be so moral when he shall end are
The like himself.

Shakspere.

For there was never yet philosopher
That could endure the toothache patiently.

Shakspere.

Arm the obdured breast With stubborn patience as with triple steel.

Milton.

The best of men That e'er wore earth about him was a sufferer; A soft, meek, patient, humble, tranquil spirit. The first true gentleman that ever breathed.

Patriotism.

That man is little to be envied whose patriotism would not gain force upon the plain of Marathon, or whose piety would not grow warmer among the ruins of Iona. Tokuson.

Such is the patriot's boast, where'er we roam,

His first, best country ever is his home.

Goldsmith.

Patriotism is the last refuge of a scoundrel. Tokuson.

Who dared to love their country and be poor.

Pope.

True patriots all; for be it understood We left our country for our country's good.

Barrington.

Oh, Heaven! he cried, my bleeding country save.

My country, 'tis of thee, Sweet land of liberty Of thee I sing.

Somuel F. Smith.

I was born an American; I live an American, I shall die an American.

Our country-whether bounded by the St. John's and the Sabine, or however otherwise bounded or described, and be the measurements more or less-still our country, to be cherished in all our hearts, to be defended by all our hands. Winthrop.

Peace.

Peace be within thy walls and prosperity within thy palaces. Old Testament.

> Peace hath her victories No less renown'd than war.

Milton.

Still in thy right hand carry gentle peace, To silence envious tongues.

Shakspere.

There never was a good war or a bad peace.
Franklin.

Peace, peace: when there is no peace.

Old Testament.

Where peace And rest can never dwell, hope never comes, That comes to all.

Milton.

The inglorious arts of peace.

Marvell.

Pity.

She loved me for the dangers I had passed, And I loved her that she did pity them.

Shakspere.

He that hath pity upon the poor lendeth unto the Lord. Old Testament.

For pity melts the mind to love.

Dryden.

Of all the paths lead to a woman's love Pity 's the straightest.

Beaumont and Fletcher.

And pity, like a naked new-born babe, Striding the blast.

Shaksbere.

Pity the sorrows of a poor old man, Whose trembling limbs have borne him to your door, Whose days are dwindled to the shortest span; Oh! give relief, and Heaven will bless your store.

Pleasure.

Rich the treasure, Sweet the pleasure, Sweet is pleasure after pain.

Dryden.

But pleasures are like poppies spread, You seize the flower, its bloom is shed; Or, like the snow-fall in the river, A moment white, then melts forever.

Rurus.

The Puritans hated bearbaiting, not because it gave pain to the bear, but because it gave pleasure to the spectators. Macaulay.

A man of pleasure is a man of pains.

The soul's calm sunshine and the heartfelt joy.

Come live with me, and be my love, And we will all the pleasures prove That hills and valleys, dales and fields, Woods or steepy mountains, yields.

Marlowe.

All human race, from Ching to Peru. Pleasure, howe'er disguis'd by art, pursue?

Warton.

Here Skugg Lies snug, As a bug In a rug.

Franklin.

There 's little pleasure in the house When our gudeman 's awa'.

Mickle.

No profit grows where is no pleasure ta'en: In brief, sir, study what you most affect.

Poverty.

Blessed is he that considereth the poor.

Old Testament.

Steep'd me in poverty to the very lips.

Shakspere.

He left a paper sealed up, wherein were found three articles as his last will: "I owe much, I have nothing, I give the rest to the poor." Rabelais.

> With one hand he put A penny in the urn of poverty And with the other took a shilling out.

Pollok.

Poor naked wretches, wheresoe'er you are, That bide the pelting of this pitiless storm, How shall your houseless heads and unfed sides, Your loop'd and window'd raggedness, defend you From seasons such as these.

Thou source of all my bliss, and all my woe, That found'st me poor at first, and keep'st me so. Goldsmith.

Too poor for a bribe, and too proud to importune, He hath not the method of making a fortune.

Gray.

Nor grandeur hear with a disdainful smile The short and simple annals of the poor.

Gray.

A poor, infirm, weak and despis'd old man.

Shakspere..

Praise.

The love of praise, howe'er concealed by art, Reigns more or less, and glows in ev'ry heart.

Praise God, from whom all blessings flow; Praise Him, all creatures here below! Praise Him above, ye heavenly host!

Ken.

Young.

Poetic Justice, with her lifted scale,
Where, in nice balance, truth with gold she weighs,
And solid pudding against empty praise.

Of whom to be disprais'd were no small praise,

Milton.

Green be the turf above thee, Friend of my better days; None knew thee but to love thee, Nor named thee but to praise.

Halleck.

Poets lose half the praise they should have got Could it be known what they discreetly blot.

Waller.

The sweeter sounds of woman's praise.

Macaulay.

Praise undeserved is scandal in disguise.

Pope.

The rose that all are praising Is not the rose for me.

Bayley.

Pride.

He passed a cottage with a double coach-house,
A cottage of gentility;
And he owned with a grin
That his favorite sin

Southey.

My pride fell with my fortunes.

Is pride that apes humility.

Skakspere.

Pride in their port, defiance in their eye.

Goldsmith.

Pride goeth before destruction, and an haughty spirit before a fall.

Old Testament.

A falcon, towering in her pride of place, Was by a mousing owl hawk'd at and killed.

Shakspere.

In pride, in reasoning pride, our error lies; All quit their sphere, and rush into the skies. Pride still is aiming at the blessed abodes; Men would be angels, angels would be gods.

Pope.

And the Devil did grin, for his darling sin Is pride that apes humility.

Coleridge.

Purity.

Unto the pure all things are pure.

New Testament,

She was good as she was fair; None—none on earth above her! As pure in thought as angels are, To know her was to love her.

Rogers.

Like the stained web that whitens in the sun, Grow pure by being purely shone upon.

Moore.

So his life has flowed From its mysterious urn a sacred stream, In whose calm depth the beautiful and pure Alone are mirror'd.

Talfourd.

We understood

Her by her sight; her pure and eloquent blood Spoke in her cheeks, and so distinctly wrought, That one might almost say her body thought. Doume.

Doune. Centitore.

The real simon pure.

They say that a lion will turn and flee From a maid in the pride of her purity, But the maiden, if she be a wise little thing, Will keep out of the path of the beastly king.

Anon.

Chaste as the icicle,
That 's curded by the frost from purest snow,
And hangs on Dian's temple.

Shakspere.

Quiet.

All that are lovers of virtue, . . . be quiet, and go a-Angling.

Walton

Use three Physicians, Still-first Dr. Quiet, Next Dr. Mery-man And Dr. Dyet.

Old work on Health.

But quiet to quick bosoms is a hell.

Rugan

And join with thee calm Peace and Quiet, Spare Fast, that oft with gods doth diet.

Milton.

Study to be quiet.

New Testament.

Rain.

Violets plucked, the sweetest rain Makes not fresh or grow again.

Fletcher.

The thirsty earth soaks up the rain, And drinks and gapes for drink again; The plants suck in the earth, and are With constant drinking fresh and fair.

Cowley.

For the rain it raineth every day.

Skakspere.

He shall come down like rain upon the mown grass.

Old Testament.

Ah, do not, when my heart hath scap'd this sorrow, Come in the rearward of a conquered woe; Give not a windy night a rainy morrow, To linger out a purpos'd overthrow.

Shakspere.

Reading.

Learn to read slow; all other graces Will follow in their proper places.

Walker.

Read, mark, learn and inwardly digest.

Book of Common Prayer.

You write with ease to show your breeding, But easy writing's cursed hard reading.

Skeridan.

Reading maketh a full man, conference a ready man, and writing an exact man.

Bacon.

DICTIONARY OF PROSE AND POETICAL QUOTATIONS.

What is twice read is commonly better remembered than what is

Toknson.

And better had they ne'er been born, Who read to doubt, or read to scorn.

Scott.

Reading what they never wrote, Just fifteen minutes, huddle up their work, And with a well-bred whisper close the scene.

Cowper.

Reason.

Reason is the life of the law; nay, the common law itself is nothing else but reason. . . . The law, which is perfection of reason.

Sure, He that made us with such large discourse, Looking before and after, gave us not That capability and godlike reason To rust in us unus'd.

Skakspere.

Now see that noble and most sovereign reason, Like sweet bells jangled, out of tune and harsh.

Shakspere.

Give unto me, made lowly wise, The spirit of self-sacrifice; The confidence of reason give; And in the light of truth thy bondman let me live.

Wordsworth. Error of opinion may be tolerated where reason is left free to com-

Jefferson.

The ruling passion, be it what it will. The ruling passion conquers reason still.

The intelligible forms of ancient poets, The fair humanities of old religion, The power, the beauty and the majesty, That had their haunts in dale, or piny mountain, Or forest, by slow stream, or pebbly spring, Or chasms and watery depths: all these have vanished; They live no longer in the faith of reason. Coleridge.

Religion.

To be of no church is dangerous. Religion, of which the rewards are distant and which is animated only by Faith and Hope, will glide by degrees out of the mind, unless it be invigorated and reimpressed by external ordinances, by stated calls to worship and the salutary influence of example.

The writers against religion, whilst they oppose every system, are wisely careful never to set up any of their own.

A little philosophy inclineth a man's mind to atheism, but depth of philosophy bringeth men's minds about to religion. Lord Bacon.

Revenge.

Which, if not victory, is yet revenge.

Milton.

Revenge, at first though sweet, Bitter ere long back on itself recoils.

That practic'd falschood under saintly shew, Deep malice to conceal, couch'd with revenge.

Milton.

If it will feed nothing else, it will feed my revenge

Revenge is profitable; gratitude is expensive.

Gibbon.

Sadness.

Of all tales 'tis the saddest-and more sad Because it makes us smile.

Byron.

I had rather have a fool make me merry, than experience make me sad.

Shakspere.

Earth has no sorrow that Heaven cannot heal.

Moore.

But hushed be every thought that springs From out the bitterness of things.

Wordsworth.

But, sad as angels for the good man's sin, Weep to record, and blush to give it in.

Cambbell.

For seldom shall she hear a tale So sad, so tender, and so true.

Shenstone.

A sadder and a wiser man. He rose the morrow morn.

Coleridge.

And Mecca saddens at the long delay.

Thomson

The Sea.

They that go down to the sea in ships, that do business in great waters.

Old Testament.

I'll example you with thievery: The sun's a thief, and with his great attraction Robs the vast sea: the moon's an arrant thief. And her pale fire she snatches from the sun: The sea's a thief, whose liquid surge resolves The moon into salt tears.

Shakspere.

Twas when the sea was roaring With hollow blasts of wind, A damsel lay deploring, All on a rock reclin'd.

Gay.

This narrow isthmus 'twixt two boundless seas, The past, the future, two eternities!

On life's vast ocean diversely we sail. Reason the card, but passion is the gale.

Pope.

Roll on, thou deep and dark blue Ocean-roll! Ten thousand fleets sweep over thee in vain; Man marks the earth with ruin-his control Stops with the shore.

Byron.

Shame.

And lovelier things have mercy shown To every failing but their own And every woe a tear can claim, Except an erring sister's shame.

Byron

Oh, shame to men! devil with devil damn'd Firm concord holds; men only disagree Of creatures rational.

Milton.

O shame! where is thy blush!

Skaksbere.

Avoid shame, but do not seek glory-nothing so expensive as glory. Sydney Smith.

> Honor and shame from no condition rise; Act well your part, there all the honor lies.

Pope.

Men the most infamous are fond of fame,

And those who fear not guilt, yet start at shame.

Churchill.

I have mark'd

A thousand blushing apparitions
To start into her face; a thousand innocent shames,
In angel whiteness, bear away those blushes.

Skakspere.

Sighing.

A plague of sighing and grief! it blows a man up like a bladder.

Skakspere.

Sigh'd and look'd, and sigh'd again.

Dryden.

Speed the soft intercourse from soul to soul, And waft a sigh from Indus to the Pole.

Pose.

Sigh no more, ladies, sigh no more, Men were deceivers ever.

Skakspere.

Had sighed to many, though he loved but one.

Byron.

I stood in Venice, on the Bridge of Sighs; A palace and a prison on each hand.

Byron.

She gave me for my pains a world of sighs.

Skakspere. 1

The sigh that rends thy constant heart Shall break thy Edwin's too.

Goldsmith.

Silence.

There was a silence deep as death; And the boldest held his breath For a time.

Campbell.

The silent organ loudest chants The master's requiem.

Emerson.

Come then, expressive silence, muse his praise.

Thomson.

Silence in love bewrays more woe
Than words though ne'er so witty,
A beggar that is dumb, you know,
May challenge double pity.

Raleigh.

No hammers fell, no ponderous axes rung; Like some tall palm the mystic fabric sprung. Majestic silence!

Heber.

Now came still evening on, and twilight gray Had in her sober livery all things clad; Silence accompany'd; for beast and bird, They to their grassy couch, these to their nests, Were slunk, all but the wakeful nightingale.

Milton.

Silence that dreadful bell! it frights the isle From her prosperity.

Shakspere.

Silence is the perfectest herald of joy; I were but little happy it I could say how much.

Shakspere.

Sleep.

Methought I heard a voice cry, "Sleep no more! Macbeth does murder sleep"—the innocent sleep; Sleep, that knits up the ravell'd sleeve of care.

Shakspere.

Thou hast been called, O Sleep! the friend of woe; But 'tis the happy that have called thee so.

Southey.

He giveth his beloved sleep.

Old Testament.

Yet a little sleep, a little slumber, a little folding of the hands to sleep.

Old Testament.

Tired Nature's sweet restorer, halmy sleep!

Young.

Not poppy, nor mandragora, Nor all the drowsy syrups of the East, Shall ever medicine thee to that sweet sleep Which t. ou ow'dst yesterday.

Shakspere.

On parent knees, a naked new-born child Weeping thou sat'st while all around thee smiled; So live, that, sinking in thy last long sleep, Calm thou may'st smile, while all around thee weep.

Now blessings light on him who first invented sleep: it covers a man all over, thoughts and all, like a cloak; it is meat for the hungry, drink for the thirsty, heat for the cold, and cold for the hot.

*Corposito.**

Solitude:

In the desert a fountain is springing,
In the wide waste there still is a tree,
And a bird in the solitude singing,
Which speaks to my spirit of thee.

Byron.

I praise the Frenchman, his remark was shrewd, How sweet, how passing sweet is solitude! But grant me still a friend in my retreat, Whom I may whisper, solitude is sweet.

Cowper.

He makes a solitude, and calls it peace.

Byron.

For solitude sometimes is best society, And short retirement urges sweet return.

Milton.

Which is the bliss of solitude.

Wordsworth.

That inward eye

Byron.

In solitude, where we are least alone.

O Solitude! where are the charms
That sages have seen in thy face?

Cowper.

There is a pleasure in the pathless woods, There is a rapture on the lonely shore, There is society, where none intrudes, By the deep sea, and music in its roar: I love not Man the less, but Nature more.

Byron.

Strength.

He that wrestles with us strengthens our nerves and sharpens our skill; our antagonist is our helper.

Rurke.

Spring.

Come, gentle Spring! ethereal mildness! come.

Thomson.

When Spring unlocks the flowers to paint the laughing soil.

Heber.

Sweet Spring, full of sweet days and roses, A box where sweets compacted lie.

Herbert.

But when shall spring visit the mouldering urn? Oh, when shall it dawn on the night of the grave?

Beattie.

Primrose, first-born child of Ver, Merry spring-time's harbinger.

Beaumont and Fletcher.

In those vernal seasons of the year, when the air is calm and pleasant, it were an injury and sullenness against Nature not to go out and see her riches, and partake in her rejoicing with heaven and earth.

The State.

But in the gross and scope of mine opinion, This bodes some strange eruption to our state. Shakspere.

What constitutes a state?

Men who their duties know, But know their rights, and, knowing, dare maintain. And sovereign law, that state's collected will, O'er thrones and globes elate, Sits empress, crowning good, repressing ill.

Jones.

A thousand years scarce serve to form a state; An hour may lay it in the dust.

Byron.

Here shall the Press the People's right maintain, Unawed by influence and unbribed by gain; Here patriot Truth her glorious precepts draw, Pledged to Religion, Liberty and Law.

Story.

States, as great engines, move slowly.

Methinks I see in my mind a noble and puissant nation rousing herself like a strong man after sleep, and shaking her invincible locks; methinks I see her as an eagle mewing her mighty youth, and kindling her undazzled eyes at the full mid-day beam.

Talking.

Then he will talk-good gods! how he will talk!

Who think too little, and who talk too much.

Dryden.

Let your speech be always with grace, seasoned with salt. New Testament.

The poetry of speech.

Byron.

Just at the age 'twixt boy and youth, Just at the age 'twixt boy and Jou...,
When thought is speech, and speech is truth.

Scott.

Thought.

But evil is wrought by want of thought As well as want of heart.

Hood.

They are never alone that are accompanied with noble thoughts.

And Thought leapt out to wed with Thought Ere Thought could wed itself with Speech.

Like thoughts whose very sweetness yieldeth proof That they were born for immortality. Wordsworth.

He thought as a sage, though he felt as a man.

Beattie.

Thought is deeper than all speech.

Cranch.

With curious art the brain too finely wrought Prevs on herself, and is destroyed by thought.

The dome of thought, the palace of the soul.

Byron.

Thought is the property of him who can entertain it, and of him who can adequately place it.

But words are things, and a small drop of ink, Falling, like dew, upon a thought, produces That which makes thousands, perhaps millions, think. Byron.

When to the sessions of sweet silent thought I summon up remembrance of things past. Shakspere.

Delightful task! to rear the tender thought, To teach the young idea how to shoot.

Thoughts, that voluntary move Harmonious numbers.

Milton

Time.

Even such is Time, that takes on trust Our youth, our joys, our all we have, And pays us but with age and dust: Who in the dark and silent grave, When we have wandered all our ways, Shuts up the story of our days; But from this earth, this grave, this dust, My God shall raise me up, I trust.

Raleigh.

And panting Time toiled after him in vain.

The signs of the times.

New Testament. Thus the whirligig of Time brings in his revenges.

Live to be the show and gaze o' the time.

Skakspere.

The bell strikes one. We take no note of time, But from its loss.

Young.

Gather ye rose buds while ye may, Old Time is still a-flying, And this same flower, that smiles to-day, To-morrow will be dying.

Herrick.

Time has laid his hand Upon my heart, gently, not smiting it, But as a harper lays his open palm Upon his harp, to deaden its vibrations.

Longfellow.

His golden locks time hath to silver turned; O time too swift! O swiftness never ceasing! His youth 'gainst time and age hath ever spurned, But spurn'd in vain; youth waneth by increasing.

Truth.

Beauty is truth, truth beauty, that is all Ye know on earth, and all ye need to know.

Keats.

Truth from his lips prevail'd with double sway, And fools, who came to scoff, remain'd to pray.

Goldsmith.

No pleasure is comparable to standing on the vantage-ground of truth. Lord Bacon.

For truth has such a face and such a mien, As to be lov'd needs only to be seen.

Truth is as imposible to soil by any outward touch as is the sunbeam. Lord Bacon.

Truth is the highest thing that man may keep.

Great is truth, and mighty above all things.

Old Testament.

Truth is as impossible to be soiled by any outward touch as the sunbeam.

Milton.

Tyranny.

Necessity is the argument of tyrants, it is the creed of slaves.

Kings will be tyrants from policy, when subjects are rebels from principle.

Where law ends, tyranny begins.

Pitt.

The tree of liberty only grows when watered by the blood of tyrants. Barere.

> This hand, to tyrants ever sworn the foe, For freedom only deals the deadly blow; Then sheathes in calm repose the vengeful blade, For gentle peace in freedom's hallowed shade. J. Q. Adams.

Virtue.

Know then this truth (enough for man to know), "Virtue alone is happiness below."

Well may your hearts believe the truths I tell; 'Tis virtue makes the bliss, where'er we dwell.

Collins. Virtue could see to do what virtue would By her own radiant light, though sun and moon

Virtue is bold, and goodness never fearful.

I cannot praise a fugitive and cloistered virtue, unexercised and unbreathed, that never sallies out and sees her adversary, but slinks out of the race, where that immortal garland is to be run for not with-

Were in the flat sea sunk.

Virtue is like precious odors, most fragrant when they are incensed or crushed.

Bacon.

War, war is still the cry-war even to the knife!

Byron.

There never was a good war or a bad peace.

Franklin.

But war's a game which, were their subjects wise, Kings would not play at.

Cowper.

Oh, for a lodge in some vast wilderness, Some boundless contiguity of shade, Where rumor of oppression and deceit, Of unsuccessful or successful war, Might never reach me more.

Cowper.

To be prepared for war is one of the most effectual means of preserving peace.

Washington.

One to destroy is murder by the law: And gibbets keep the lifted hand in awe; To murder thousands takes a specious name, To murder thousanus takes a openion war's glorious art, and gives immortal fame.

Young.

He is come to ope The purple testament of bleeding war.

Oh, wither'd is the garland of war, The soldier's pole is fallen.

Shakspere.

The hum of either army stilly sounds, That the fix'd sentinels almost receive The secret whispers of each other's watch. Fire answers fire; and through their paly flames Each battle sees the other's umbered face. Steed threatens steed, in high and boastful neighs Piercing the night's dull ear; and from the tents, The armorers accomplishing the knights, With busy hammers closing rivets up, Give dreadful note of preparation.

Skaksbere.

Welcome.

'Tis sweet to hear the watch-dog's honest bark' Bay deep-mouthed welcome as we draw near home.

Whoe'er has travel'd life's dull round, Where'er his stages may have been, May sigh to think he still has found The warmest welcome at an inn.

Shenstone.

For I, who hold sage Homer's rule the best Welcome the coming, speed the going guest.

Pope.

Welcome ever smiles, And farewell goes out sighing.

Skakspere.

Wisdom.

Wisdom is the principal thing: therefore get wisdom; and with all thy getting get understanding.

Old Testament.

The man of wisdom is the man of years.

Young.

In idle wishes fools supinely stay; Be there a will, and wisdom finds a way.

Knowledge is proud that he has learn'd so much; Wisdom is humble that he knows no more.

Comper.

To know That which before us lies in daily life, Is the prime wisdom.

Milton.

Be wisely worldly, be not worldly wise.

Duarles.

Thus we play the fools with the time, and the spirits of the wise sit on the clouds and mock us. Skakspere.

Type of the wise who soar, but never roam; True to the kindred points of Heaven and Home. Wordsworth.

Woman.

The reason firm, the temperate will, Endurance, foresight, strength and skill; A perfect Woman, nobly planned, To warn, to comfort and command.

Wordsworth.

Her air, her manners, all who saw admired; Courteous though coy, and gentle though retired; The joy of youth and health her eyes display'd, And ease of heart her every look convey'd.

Earth's noblest thing, a woman perfected.

A creature not too bright or good For human nature's daily food; For transient sorrows, simple wiles, Praise, blame, love, kisses, tears and smiles.

Wordsworth.

O woman! in our hours of ease, Uncertain, coy, and hard to please, And variable as the shade By the light, quivering aspen made; When pain and anguish wring the brow A ministering angel thou!

Scott.

Where is the man who has the power and skill To stem the torrent of a woman's will; For if she will, she will, you may depend on't; And if she won't, she won't; and there 's an end on 't. Old Epigram.

Women, like princes, find few real friends.

Lyttelton.

Her voice was ever soft, Gentle and low-an excellent thing in woman,

Shakspere.

Johnson.

Sir, a woman preaching is like a dog's walking on his hind legs. It is not done well; but you are surprised to find it done at all.

> The world was sad-the garden was a wild, And Man, the hermit, sighed-till woman smil'd. Campbell.

> > The woman that deliberates is lost.

Addison.

He is a fool who thinks by force or skill To turn the current of a woman's will.

Tuke.

Her children arise up and call her blessed.

Old Testament.

So well to know Her own, that what she wills to do or say Seems wisest, virtuousest, discreetest, best.

Milton.

My latest found, Heaven's last, best gift, my ever new delight.

Milton.

Not she with trait'rous kiss her Savior stung, Not she denied him with unholy tongue; She, while apostles shrank, could danger brave, Last at his cross and earliest at his grave.

Barrett.

Youth.

Crabbed age and youth Cannot live together.

Skakspere.

Rejoice, O young man, in thy youth.

The canker galls the infants of the spring, Too oft before their buttons be disclosed; And in the morn and liquid dew of youth Contagious blastments are most imminent.

Shakspere.

He wears the rose Of youth upon him.

Shakspere.

Tis now the summer of your youth: time has not cropt the roses from your cheek, though sorrow long has washed them.

Edward Moore.

Fairlaughs the morn, and soft the zephyr blows, While proudly riding o'er the azure realm In gallant trim the gilded vessel goes; Youth on the prow, and Pleasure at the helm; Regardless of the sweeping whirlwind's sway, That, hush'd in grim repose, expects his ev'ning prey. Gray.

> A worm is in the bud of youth, And at the root of age.

Cowper.

And life is thorny, and youth is vain; And to be wroth with one we love Doth work like madness in the brain.

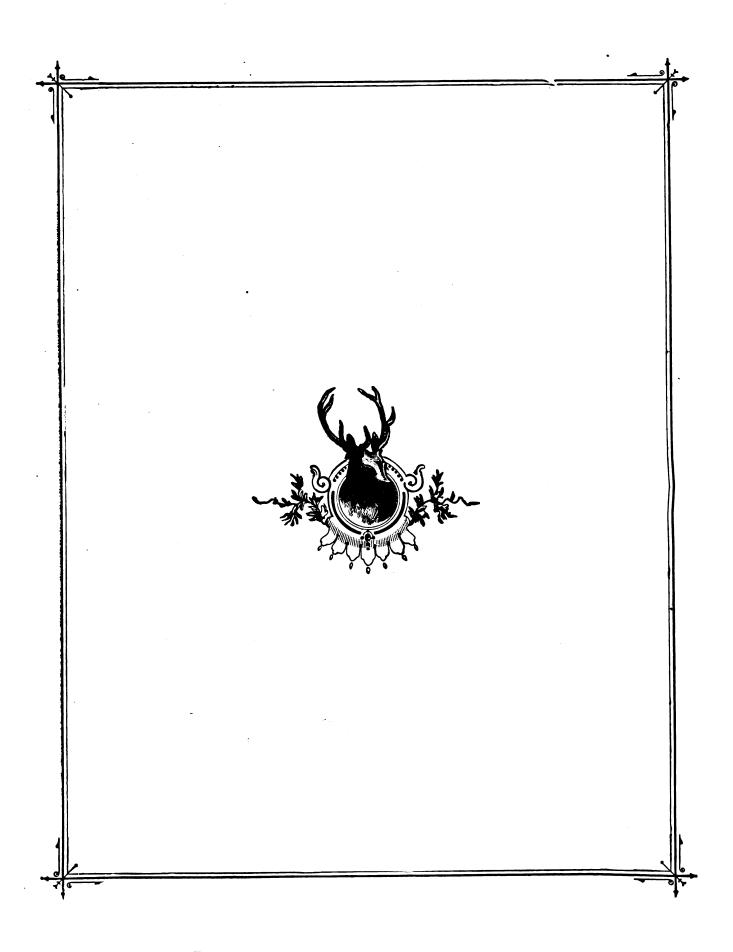
Coleridge.

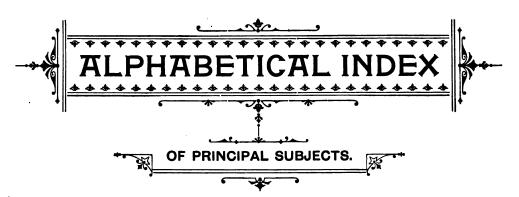
In the lexicon of youth, which fate reserves For a bright manhood, there is no such word As-fail.

Bulwer Lytton.

Ah! happy years! once more, who would not be a boy?







Note.—It has been deemed unnecessary to repeat, in this summary of contents, those topics which have been arranged in alphabetical order in various departments of the work. A glance at the Table of Contents will enable the reader to determine under which heading any subject of reference not named in the following pages may be found.

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